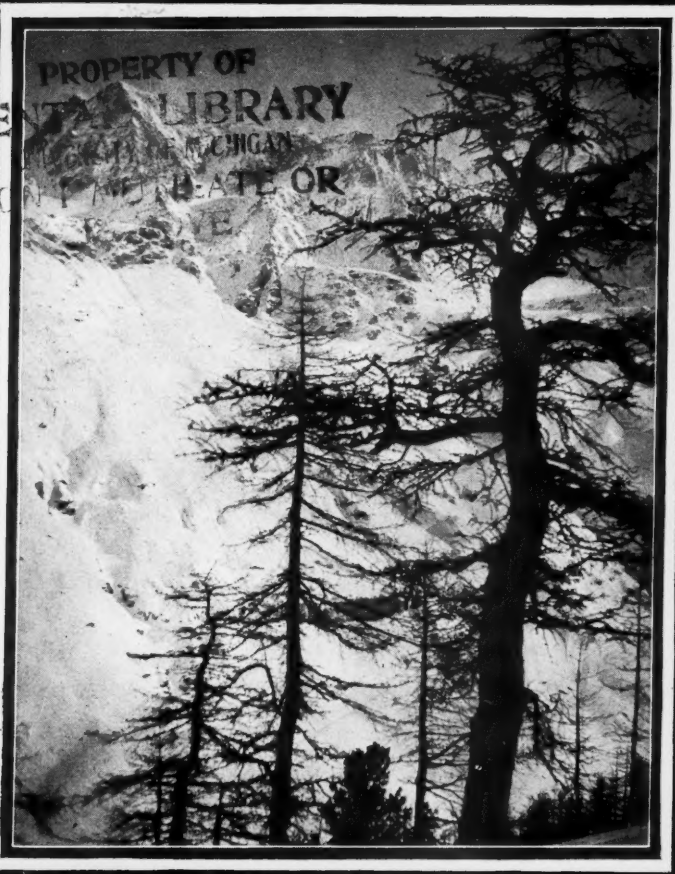
THE DENTAL DIGEST



DECEMBER - 1925

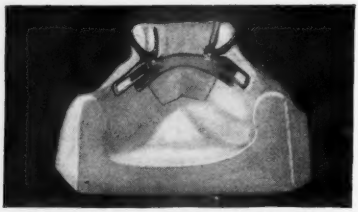
VOL. XXXI, NO. 12

EDITED BY
GEORGE WOOD CLAPP, D.D.S.

PUBLISHED BY
THE DENTISTS' SUPPLY CO.
CANDLER BLDG. TIMES SQUARE
220 WEST 42ND ST. NEW YORK.

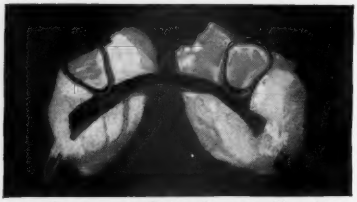
What Golds shall I use for Mrs. Jones's Partial Denture?

How often such a question is asked by the dentist who is also a dental engineer!

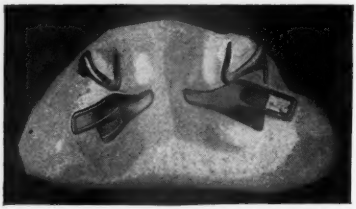


When joining parts together such as a bar and clasps,—

first wax in place then mould plaster cores over the joints—



in such a manner that each core will register the proper relation of the parts and hold them—



until an investment model can be poured and the parts soldered.

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THE J. M. NEY CO.
HARTFORD, CONN.
U. S. A.

WHAT GOLD DOES YOUR LABORATORY USE?

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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., EDITOR

Published monthly, by THE DENTISTS' SUPPLY COMPANY, 220 West 42nd Street, New York, U. S. A., to whom all communications relative to subscriptions, advertising, etc., should be addressed.

Subscription price, including postage, $1.00 per year to all parts of the United States, Philippines, Guam, Cuba, Porto Rico, Mexico, and Hawaiian Islands. To Canada, $1.40. Great Britain and Continent, $2.75. Australia, $3.25. To all other Countries, $1.75.

Articles intended for publication and correspondence regarding the same should be addressed EDITOR DENTAL DIGEST, Candler Bldg., Times Square, 220 West 42nd Street, New York, N. Y.

The editor and publishers are not responsible for the views of authors expressed in these pages.

Entered as Second Class Matter, at the Post-office at New York City, N. Y., January 29, 1909, under the Act of Congress, March 3, 1879.

OUR COVER THIS MONTH

Switzerland has been very much in the public eye for the past year, as at the Geneva Conference first, and Locarno later, a practical brand of "World Peace" has been worked out and declared to be the most important event that has happened in the interest of humanity since the Armistice. France, Germany and Belgium—enemies since the days of Julius Caesar—have at last signed up to be good friends, which practically assures peace in Europe for all future time.

In looking over Switzerland for a COVER PICTURE we have secured from Dr. Walter E. Burger, Zurich, Switzerland, a majestic view not far from Lake Maggiore, on the north shore of which Locarno is situated. It is a characteristic bit of Swiss landscape, mountainous, of course, the loftiest point being known as Mount Corvatsch, 11,345 feet high, and which is the objective point for thousands of visitors during the tourist season. From this high peak a splendid view can be had of the Bernese Alps to the West, and the Upper Engadine with its lakes and villages, and also innumerable glaciers for which Switzerland is specially noted.

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THE
DENTAL DIGEST

Vol. XXXI DECEMBER, 1925 No. 12

Diagnostic Methods of Malocclusions and Simple Methods of Treatments*

By Frederick Lester Stanton, D.D.S., New York, N. Y.

(This summary is neither authentic nor official. It represents the impression made by the paper upon one in the audience.)

This address was illustrated from the beginning by lantern slides and a considerable part of its value cannot be reproduced without the pictures. The speaker began with the statement that more than seventy-five per cent of all children have contracted dental arches. Later in the address he added that about half of the irregularities which result from such constrictions are of Class I (Angle). In any arch, either childish or adult, where operative interference has upset the equilibrium of forces, as may be done by extractions or improper restorations, constrictions and irregularities are bound to result.

The underlying causes for constrictions in the arches of very young children are unknown to the author.

The first three slides showed casts of thirty-nine dental arches in children under twelve months of age, as made by Dr. Denzer and his wife in the Child's Hospital, New York. They wished to prove or disprove the statement that adenoids and mouth-breathing cause deformity of the dental arch. When the doctor and his wife began the work, they found that much of the preceding work of the sort had been done without a really scientific system of measurements from recognized landmarks, so that all sorts of measurements had been set. The speaker was able to assist Dr. Denzer in locating landmarks which would be of value in comparative studies.

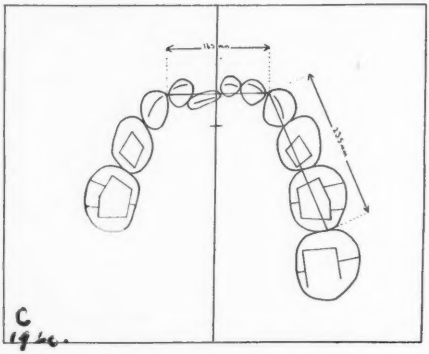
Stone models were made of the arches for each child, and something of the difficulty can be understood when it is remembered that some of these infants were less than three months old. Each of these models was accurately surveyed in three dimensions and from the resulting graphs it was possible to obtain the contours of the infant arches in the sagittal plane and in cross section at the second temporary molars. An arch curve was also established by following the summits of the

* The lantern slide lecture with this title was read before the Preventive Dentistry Section of the First District Dental Society, New York, October 14, 1925.

incisal edges of the anteriors and the buccal cusps of the molars as they showed under the gum tissues. As a result of studies conducted in this manner, the following widths of arches were obtained:

In children from 1 to 3 months old.....	29.4 mm.
In children from 4 to 6 months old.....	31. mm.
In children from 7 to 11 months old.....	32.6 mm.

A little later the speaker showed pictures of the models of a boy ten years old who presented insufficient room between the maxillary cuspids for the eruption of the permanent maxillary incisors. The speaker told the parents that it was unfortunate that treatment had not been undertaken when the boy was five and a half or six years old because there had been no growth in the anterior part of the arch since that time. The father doubted that statement and brought models



Survey of Lower Arch Aged Six Years.

Temporary side unit on right measures....	23.5 mm.
Front unit measures.....	16.5 mm.
Expansion required in upper and lower..	7. mm.

taken at the age of five years in support of his views. When both arches had been surveyed and one of the diagrams superimposed upon the other, it was shown that there had been no increase in width of the arch since the age of five years, but that, because of lack of room for the adult incisors to take their places in the line which would have constituted the proper form for that arch, they had established a new line outside the proper line and the front part of the arch had developed forward into a curve of a character quite different from that which would have occurred if sufficient room had been available for the teeth to erupt in proper positions.

Generally the permanent maxillary incisors erupt before the deciduous cuspids and molars are lost. In normal cases the anterior part of the arch, at the age of five years, should have spaces between the incisors, and when the incisors are lost there is room for the permanent incisors to erupt in proper alignment. When the space is not sufficient for the permanent incisors and they are out of alignment, there is a tendency on the part of many parents and many dentists to wait to see whether nature will not spread the arch sufficiently to allow proper alignment. While some increase in width will undoubtedly take place in the anterior part of such arches, the author has never known a case in which there was not sufficient room for the permanent incisors to erupt in which nature, unaided, was able to widen the arch more than two millimeters. In normal cases the anterior part of the dental arch is as wide in a child of six years as in an adult.

Several slides were then shown which illustrated the difference in rate of growth between the face and the cranium, from childhood to adult age. During infancy the cranium develops much more rapidly than the face, especially the dental part. After the age is reached at which the teeth begin to erupt, the face grows eight times as fast as the cranium. Much careful work has been done to show the extent and rate of such growth. With the external auditory meatus as the starting point for measurement, it has been shown that between the ages of five and twenty-five years the maxillary incisor point may move forward twenty-three millimeters, and a growth of forty millimeters from childhood to adult age has been recorded. The hearer formed the opinion that this was not a record of growth in the same individual between these ages, but that these measurements had been taken from the one child and another adult. It was clearly shown that the entire bone does not grow, but that the growth takes place at the sutures and the increase of bone carries the teeth with it. If a childish arch is to provide room for the eruption of the permanent maxillary incisors in proper positions, there must be, by the age of five years at the latest, separations between the deciduous anteriors. Unless the deciduous arch widens eight millimeters, more or less, in preparation for the adult incisors, they must assume some position of malocclusion.

It is clinically known that the combined mesio-distal diameters of the deciduous cuspids and molars are sufficient to provide room for the eruption of the permanent cuspids and bicuspids in proper positions. It is very important that this space should be repaired either by filling, if the teeth decay, or by space retainers, if the teeth must be extracted before it is time for the permanent teeth to come through.

The author then placed upon the screen some very instructive diagrams to which all dentists would do well to give careful attention. They represent surveys of adult arches in different races of people

and illustrate the most extreme arch forms the author had been able to find. There is surprisingly little difference in the width of the arches at the first molars, the variation between narrowest and widest being not more than five millimeters on one side, measured from the sagittal plane. The variation in length was about two and a half times as great as the variation in width, or thirteen millimeters. By means of these illustrations the speaker sought to drive home the conviction that there is no justification for the formation by orthodontists of a predetermined arch form, or one geometrical type of figure, to which natural teeth should be arranged for all patients.

Many of the audience were interested when he showed that the width of the Heidelberg maxilla, of 50,000 years ago, at the first molars had probably been about sixty millimeters and that a modern girl, fifteen years of age, whose picture he showed, presented an arch with the width of fifty-seven millimeters.

The first permanent molars tend to erupt as nearly in correct position as conditions permit. Sometimes, when the arch is narrower than it should be at the second deciduous molars, the mesial cusps of the permanent molars are rotated inward to make proper contact with the deciduous teeth, but the distal cusps try to locate themselves properly, which accounts for the rotation of these teeth in most cases.

Careful studies of accurate surveys shown in 750 cases of malocclusion justify the assumption that the palate will grow to normal width at the second molar, no matter how great may be the arrest of the development at the temporary molars. When extreme expansion is effected, the parts that are normal will be but little affected. Teeth not in normal position will follow the expansion up to the point of normal development. It is difficult to make bone grow beyond the normal point.

An Important Method of Diagnosis

One of the most important parts of the address came when the speaker offered a method of diagnosis by which general dental practitioners can determine for patients of about five and a half years of age whether or not there will be sufficient room for the four permanent mandibular incisors to erupt in proper positions. With a pair of dividers measure, in a straight line, the distance from the mesial contact point of the mandibular temporary cuspid to the distal contact point of the mandibular* temporary second molar on the same side. If the distance between the mesial contact points of the two mandibular temporary cuspids, in a straight line, is as great as the width of the cuspids and molars, there will be room for the mandibular permanent

* This measurement is to be made on the lower only.

incisors to erupt in proper positions. If the dividers will not go between the mesial contact points of the cuspids, there will not be sufficient space for the permanent incisors. The distance by which the dividers will not go between the cuspids equals the amount of expansion necessary. The speaker was careful to explain that this is not the method he employs in determining whether or not expansion is necessary and the extent to which it may be required. But the method will be found suitable and valuable for practitioners who do not desire to undertake complicated computations.

No one distance between the mandibular temporary cuspids could be either safe or satisfactory as a guide in the amount of space required for the permanent incisors because it may range from nineteen to twenty-six millimeters. The amount of tooth material differs in different people and its measurement around the arch may range from 110 to 150 millimeters or from 4-2/5 inches to six inches. The amount of tooth material in the temporary teeth is sufficiently closely related to the amount in the permanent teeth for the same individual so that the width of the mandibular temporary unit as here given will be a satisfactory guide for the space required for the permanent incisors.

The effect of this entire paper was a powerful presentation of the following points:

That 75% of all children exhibit contracted dental arches.

That nature, unaided, will be unable to make sufficient space for the permanent mandibular incisors if it is not present when they erupt, and that children with this condition are foredoomed to malocclusions and the evils that follow.

That it is possible for general practitioners to make a preliminary diagnosis when the child is five and a half or six years of age which will show whether or not there will be space for the permanent mandibular incisors to erupt in their proper positions.

That it is a professional duty of a general dental practitioner to make such a diagnosis and inform the parents of the prognosis.

That children can be advantageously treated from the ages of five to nine years and again from eleven to fifteen years of age, but that between these periods there is a time when treatment should not be undertaken.

That for cases of a type described here, Class I (Angle), the apparatus need not be complicated and the necessary width of the arch can be secured with few visits to the orthodontist and with comparatively little pain to the patient. The advice used should be self-limiting in action so that in the absence or illness of the patient no more than the desired separation will result from its continued action.

Treatments based on this means of diagnosis would involve a symmetrical expansion of the temporary dentures. (The temporary cuspid would have the same expansion as the second temporary molar. In rare cases the temporary molar should not be expanded as much as the front part of the arch.) If the estimated expansion would widen the lower arch beyond 57 mm., measured at the buccal gum line region of the two temporary molars, then the appliance should be made to give full estimated expansion between the temporary cuspids and limit the expansion to 57 mm. in the lower second temporary molar region.

SUMMARY OF DISCUSSION

By Dr. L. M. Waugh, New York, N. Y.

The mandibular unit which Dr. Stanton has given us is new, but he would not offer it if he had not proved it a sufficient number of times. It should be used by the general practitioner upon patients four or five years of age. If the space is insufficient for the eruption of the incisors in proper positions, natural development should be brought about, because the roots of the deciduous cuspids and molars are sufficiently large so that any lateral movement will stimulate the growth of the maximum quantity of bone and probably aid in carrying the follicles of the permanent teeth more to the buccal. If the general dental practitioner has reason to believe that there is not enough space between the mandibular cuspids, it is his duty to refer the case to someone who can decide the question and carry on the necessary correction. The practitioner cannot be blamed if he does not care to make the correction himself any more than a physician can be blamed if he does not wish to undertake a surgical operation. But just as a physician would be remiss in his professional duty if he did not refer the patient to a surgeon when necessary, so the general dental practitioner is remiss if he does not refer the parents of the little patients to the orthodontist when necessary.

If we have our patients for a year or so, we may take off the appliances in many Class I cases with the expectation that we shall not have to put them back, at least until between the ages of nine and ten years. The less time we can have patients wear appliances, the better for the patients.

We should educate our patients to take their children to the dental practitioner at the age of thirty to thirty-six months, at which time the deciduous teeth should all be erupted, and he should examine with the following things in mind: (1) the condition of the soft tissues of the mouth and palate; (2) the location and size of the labial and lingual frenum; (3) caries of the teeth; (4) malocclusion. The general

dental practitioner should advise the parents when to consult the specialist. There is a growing number of orthodontists who do not see a case for practice every time they see a patient and who desire to keep appliances out of the mouth as long as possible with the hope that nature will be able to correct the trouble without orthodontic assistance.

By Dr. Joseph D. Eby, New York, N. Y.

It is a pleasure to discuss Dr. Stanton's paper. It is all the more pleasure because only too often an audience composed of general practitioners or specialists in other fields is unwilling to listen to a paper on the subject of orthodontia.

The science of orthodontia in its preventive and its corrective aspects is essentially preventive dentistry, therefore this subject is especially appropriate for discussion before this Section, whose members have committed themselves to the more altruistic and less mercenary aspect of dentistry, that is, preventive dentistry.

It is very discouraging to see the destruction which results from the failure to recognize and treat abnormalities in the mouth at the proper time. A large percentage of periodontoclasia and caries, with all their destructive sequelæ, could have been prevented by the early recognition of malocclusion. If this condition were generally known, it would constitute a reflection upon our profession to which we could offer no rebuttal.

Dr. Stanton has presented an interesting and instructive review of the growth and development of the head from infancy to maturity, and the slides showing the directions of growth by the super-imposed outlines are comprehensive and accurate. In measuring an object in space it is difficult to assume an arbitrary landmark from which to measure the growth of the skull in all directions, but a dividing line which has been found and which can be reasonably taken is the cranial base when a skull is posed with this line on an angle of 27 degrees. Taking this groundwork as a premise, Dr. Stanton has made a presentation tonight which to me reflects something of the vast background which his investigations in this phase of orthodontia have provided. The fact to which he calls your attention, that the lineal space occupied by the deciduous cuspids and first and second molars, represents the space which should exist between the deciduous cuspids to preserve the room necessary for the proper eruption of the four permanent incisors, is, to my mind, a contribution of the greatest value.

I wish that every dentist in the world might know and apply this

measurement daily. Under the most severe criticism the worst that could be said about this measurement could be only that it cannot be far wrong in any individual case.

With the mouth as an index to general physical well-being, the correction of malocclusion of the teeth is essentially an effort to produce young adults of maximum physical qualifications. Because of this paper, general practitioners will be able to manifest a more intelligent and constructive interest in the welfare of their little patients.

CLOSE OF DISCUSSION

Dr. Stanton said that he did not want to advocate that general practitioners should treat Class II and Class III cases of malocclusion, but that about 50% of all children who present should be treated as Class I cases. Referring to some remarks by Dr. Daly, he said that he had read Dr. Daly's paper some years ago and considered it one of the most important papers ever published upon the subject.

In reply to some remarks relative to the Hawley arch, Dr. Stanton said that Hawley had started with the belief that the teeth of man, when in perfect position, form the Bonwill equilateral triangle. This gave him a formula for the arch, to which the teeth should be brought. Every Hawley arch is of the same form and varies only in size. It is absurd to base the form of the dental arch upon the argument that the teeth of man form an equilateral triangle, and dentists should learn to think of the dental arch in more than two dimensions.

My Method of Preparing Sections of Enamel for Microscopic Study

By J. Leon Williams, D.D.S., L.D.S., F.R.A.I., New York, N. Y.

In response to a number of requests for my method of preparing sections of enamel for microscopic study I have much pleasure in giving this method in detail.

The first step is staining the enamel. Staining enamel is just as important for the study of its minute structure as is staining of the soft tissues for the same purpose. This fact was not formerly realized because it was believed that enamel was unstainable, and also because the study of unstained specimens had led to the belief that it was a very simple tissue with little structure to be demonstrated. Enamel is really very complex in structure, and the method of its formation and its complete structure forms one of the most interesting studies in biology.

Nitrate of silver, in from 2% to 5% solutions, has been the most penetrating and differentiating stain for enamel work that I have tried. But to anyone taking up this study I would recommend experimenting with many stains. The demonstration of one new fact is worth much experimenting.

Teeth should always be stained in bulk, by which I mean that the whole tooth should be submitted to the stain. This seems to me to be the only method of demonstrating the permeability of enamel. Teeth should be left in the staining fluids for varying lengths of time, from a week to six months. Long-continued staining will often reveal facts not shown by brief staining.

After staining, I section the tooth, with carborundum disks or copper disks charged with carborundum powder and kept quite wet, in whatever plane of the tooth I wish to study. These sections are usually about one-half a millimeter in thickness. My most informative studies, particularly of carious and mottled enamel, have been from transverse sections of the enamel rods. This is clearly shown in my articles recently published in *The Journal of Dental Research*. Probably the reason why more transverse-section work has not been done is because the preparation of such sections, especially from dried and fossil teeth, has been found very difficult, the sections going to pieces before they were nearly thin enough for study under high powers of the microscope. But the method which I am about to describe overcomes this difficulty. The comparatively thick section, cut as I have described, should be ground smooth and polished on one side. The final polishing should be done on finely ground glass with the finest precipitated chalk. The object of this careful polishing on the side that is to be cemented to the glass slide is to get rid of all scratches or lines which might mislead one into thinking that such lines were some feature of natural structure.

After one side of the specimen is perfectly polished, it should be beveled according to the plan shown, much magnified, in the illustration. The object of this beveling will appear presently. The specimen

should now be washed in strong alcohol and allowed to dry for a few minutes.

The next step is the cementing of the specimen to a glass slide. There are two ways of doing this. It may be done immediately by melting a small piece of hard Canada balsam on the center of the slide, immersing the specimen in this with the polished side next to the glass, pressing it down firmly and holding with a stiff spring clip. When this method of mounting is used, great care should be taken not to heat the balsam much above the melting point; otherwise troublesome bubbles will appear. If, in spite of care, bubbles should form, they can usually be got rid of by moving the specimen slightly back and forth while the balsam is still hot.

After the balsam is cold, it should be drawn up around the beveled edges with a hot spatula. This step in the procedure is important, as it prevents the section from becoming dislodged by the subsequent treatment.

In the other method of mounting, ordinary soft balsam is used. A cover-glass spring clip is applied to the specimen, and it is placed in a drying chamber, heated not above 100 degrees Fahrenheit, and left there until the balsam is hard. This is the essential method for all large specimens, and perhaps the best method for all cases when one is not pressed for immediate results.

The section, cemented to the glass slide and ready for grinding, is gently pressed to the side of a fine carborundum wheel. (I have never tried a grinding machine for this work and so cannot offer any opinion as to its merits.) The grinding wheel must be kept thoroughly wet with ice water to prevent softening of the balsam. The section can be ground nearly thin enough for study in this way, but the work must be completed on the finest carborundum and Arkansas stone hones by hand-rubbing in a large tray of ice water. Very light pressure must be used and the rubbing continued until the specimen is about the thickness of a single enamel rod. My belief is that there is no substitute for the trained human hand if one wishes to reach the highest degree of perfection in this work.

The specimen must be examined from time to time in the following way: Clean it and brush it over for thirty seconds or so with a 3% solution of lactic acid. The effect of this will be to remove a little of

the cement substance between the rods and also around the organic substructure in the rod, thus revealing something of the real structure of the tissue. Wash off the lactic acid, cover with a drop of distilled water and cover glass, and examine. If an immersion lens is used, the edges of the cover glass must be secured by the use of strips of gummed paper.

All study and all photography should be done with distilled water for a mounting medium. The results will be found far superior to anything that can be obtained with balsam-mounted specimens.

Unfortunately, if specimens are to be permanently preserved, they must be mounted in balsam, and something of the fine detail is then lost. For this reason a photographic record should be made in water of all features of interest.

160 Riverside Drive.

A Three-Day Postgraduate School

To Be Conducted by the Dental Society of the State of New York

The Fifty-eighth Annual Meeting of the Dental Society of the State of New York will be held at the Hotel Astor, in the City of New York, May 19, 20, 21 and 22, 1926, at which important papers will be presented by prominent essayists, together with a specially prepared program of clinics selected because of their educational value and in order that the subjects taught in the Educational Courses may be further elucidated by demonstrations from different men.

Educational Courses

Prior to the regular meeting an intensive Three-Day Postgraduate School will be conducted under the name of "Educational Courses," Monday, Tuesday and Wednesday, May 17, 18 and 19, 1926, day and night sessions. These courses have been selected to meet a demand indicated by a ballot among over 3000 members of the Society. The following courses have been projected: (1) Full Denture Technic; (2) Partial Denture Technic; (3) Root Canal Technic, including Radiography; (4) Extraction, with special reference to difficult cases, imbedded roots, etc.; (5) Anesthesia, local and by inhalation; (6) Removable Bridgework, various types; (7) Bridgework, fixed and partially fixed; (8) Cast Gold Inlays, direct and indirect technic; (9) Orthodontia, for the general practitioner; (10) Periodontia, for the general

practitioner; (11) Porcelain Jacket Crown Construction; (12) Physical Diagnosis; (13) Office Management.

Each course will have at least three teachers, and candidates may enroll for one or for all three teachers, thus rendering it possible for men to make their studies purely elective.

All members of the American Dental Association will be eligible to take these Educational Courses. A booklet, fully outlining the details of the various courses of study, with the names of the teachers and the special parts of the subject that each will teach, will be ready for distribution early in January. All who are interested and who wish to receive this booklet will please send their names and addresses to

Dr. Edward Kennedy, 347 Fifth Avenue, New York, N. Y.
Chairman Committee on Educational Courses.

"Die Fortschritte Der Zahnheilkunde"

We are in receipt of the first installment of *Die Fortschritte der Zahnheilkunde,* which promises to be an encyclopedic work on dentistry now in process of preparation in Germany under the editorship of Dr. Julius Misch of Berlin.

From the editor's foreword we learn that he plans to bring to the dentists of Germany all that is tried and proved in advanced technic in the various branches of dental science. Each subject has been or will be treated by a recognized authority and, while theories will be expounded, the general practitioner will be safeguarded from experimentation with untried methods in his practice.

As now planned, this work will bring the equivalent of a general postgraduate course to its readers, as the illustrations of all technic procedure will be thoroughly illustrated. Printed in German and published by Georg Thieme in Leipzig.

Radiography

By Joel M. Zametkin, D.D.S., Brooklyn, N. Y.

(*Continued from November*)

This purely scientific phenomenon becomes of inestimable value when put to practical purposes. The manufacture of colors finds its usefulness in the making of paints and dyes. The explosives of the laboratory are made to clear away mountains, to blast tunnels, incidentally to maul nations! Light, artificial or natural, is made to record to the finest of details the exterior—to wit: photography. Even our "innards" are no longer secrets; we may be looked at and furthermore through, and the results of the perusal faithfully, definitely and indelibly recorded—to be read in the light of our understanding. Thus the purely scientific production of x-rays may be turned to practical utility to record our "innards" faithfully and indefinitely. So long as we remain master of the situation our results are an aid, but lose control and our scientific phenomena turn into demons of destruction—of no practical value to man. Just to develop x-ray is one thing; to turn it to studied usefulness with practical application is another matter. The first phase has been accomplished—the x-ray has been produced—the second now follows.

We opened our essay with, "You have carefully positioned the film packet against the patient's teeth." But what about film-target distance and spark gap and milliamperage and time? There is a very decided cause-and-effect relationship here and, if neglected, the results become haphazard, now good, now bad, now so so—a sort of "hit-or-miss" result. Light has penetrability; it passes through clear glass easily, less easily through thick glass, and still less through ground glass, and so on downward, depending upon the opacity of the substances interposed. The light of a dimly lighted electric bulb has slight penetrability; it barely sends its beam through transparent glass. Put in more voltage and the light becomes more intense, penetrability becomes greater. Gradually put in more voltage and the light becomes more intense, and so does penetrability. Recall the electric nightlight used at home in the bathroom, so that the children can find their way about, all but fast asleep, sort of instinctively. You've seen those incandescent lights that may be turned high or low. This phenomenon is equally true of the x-ray. There are varying degrees of penetration. When the voltage is low, the penetration is poor. You cannot read by the low light. You cannot record when the ray cannot penetrate. You can read by the incandescent light when you put in more voltage, which you do by pulling the string. You can get greater penetration of the x-ray when

you force more voltage into the tube. In the first instance the rise of voltage may be 25, 50, 75 volts; in the second 10,000, 20,000, 35,000—it's only a matter of degree. You have tremendous penetration for an instant only. Recall the flashing on of the emergency lights in the subway trains when making cross-overs. There is brilliancy, great penetration, so much so that our eyes are strained, yet in a twinkle the light is out—no quantity to speak of. We had full voltage and full current (amperage) only for an instant. Turn on the light to full capacity, and there is then great penetration—intensity—and lots of it as long as you keep the switch on. The same is true of the x-ray; high voltage, great penetration; much current flow (amperage), great quantity. Hence quality and quantity depend directly on the increase of voltage and amperage. Voltage is read in terms of 10,000 volts or spark-gap and only means lesser or greater penetration—good, bad, and indifferent quality; while amperage is read in terms of thousandths parts of an ampere (milliampere), and the greater the milliamperage, the greater the quantity. Therefore it follows that one may have great quantity but a poor quality of x-rays. The reverse condition is entirely possible.

A synonymous expression for voltage, penetration, intensity, is "spark gap." Who of us has not tested the spark plugs of our automobile? We shunt, divert the current from the spark plug to the motor-casing by means of a screwdriver, and if the current from the plug jumps with a snap and a crackle long and thick, we smile happily and continue merrily on our way. The spark is the bluish-green flash of an instant's duration; the gap is the distance it jumps; the snap is the sharp collapse of the air path the spark made, and the color is the ignition of the oxygen and atmospheric particles. When we speak of spark gap in radiography, it is the same thing, only very much more powerful; one inch, three inches, even six, eight, a foot, a yard long for that. Recall the late Dr. Steinmetz and his artificial thunderbolt; it was only a spark that leaped a distance of feet produced by a voltage of 200,000 volts. In radiography a one-inch spark gap equals approximately 13,250 volts.

Summing up the foregoing, we then conclude that quality of x-ray (penetrability, intensity) increases with rise in voltage (increase in the length of the spark gap), and quantity with increase of current flow (amperage). Both quality and quantity, then, leave a deeper effect on the film, the first in recording denseness of tissue, the second in making the record indelible. Of course, if the quality and quantity are impressed on the film for one second, three, five, seven seconds, etc., the effect will be greater and greater as the seconds of impression are allowed to continue, until the effect becomes so great that obliteration takes place. Thus far we see that three factors have a direct effect on

the film; increasing or decreasing any one or any combination has its ascending or descending effect in proportion.

The film-target distance, the fourth factor to be considered in radiographic exposure, explains itself. But the film-target distance has a decided effect upon the result if not taken into account when making the exposure. The effect of the voltage, milliamperage and time on the film can be altered by increasing or decreasing the film-target distance. The rule is as follows: the intensity is inversely as the square of the distance. The proof follows and the application is to be demonstrated later.

In a dark room a pocket electric flash-light will cast a bright circular spot on the wall; as the light is drawn backward, the circle of light

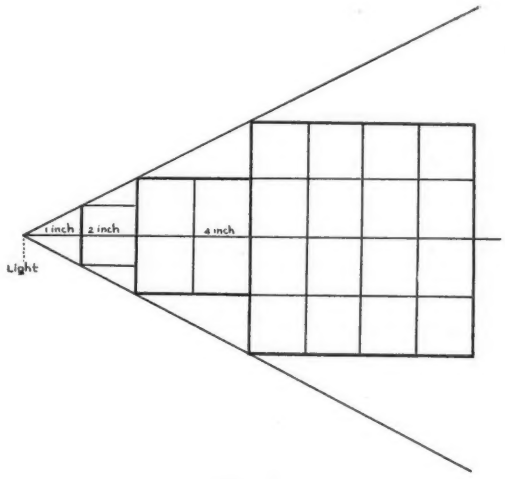


Fig. 2

enlarges only to become dimmer. As we continue this process, the circle of light grows larger and larger but dimmer and dimmer until light and circle vanish. The above diagram explains this (Fig. 2). Note that as the solitary source of light is moved backward, it has an increased area (the square of the distance) to illuminate; the farther back, the greater the area; and since the one source of light of a given power has to illuminate a greater area, the area is less and less bright. Hence to make Stage 10 as bright as Stage 3, let us say, we must increase the quality and quantity of the source of light. This is true for the dark room. But when the x-ray and film are involved, then time also must be lengthened. The application of these facts will then, and only then, demonstrate the usefulness of the x-ray. Given volts, milli-

amperage and film-target distance as definite, time will then alter the effect of the ray on the film to greater or lesser degree. Given any three factors as constant, then the fourth factor will change the effect according to its application. But whatever the arrangement of any three factors, the fourth can be determined in advance by the application of exposure arithmetic.

Let the following be the facts in the case and from these will be developed the four possibilities in exposure arithmetic: distance 15 inches; milliamperage .008; voltage 45,000; time 8 seconds.

Question 1. What is the time if the distance is changed to 20 inches, all the other factors remaining the same? The rule is that the intensity varies inversely as the square of the distance; the time varies directly as the square of the distance. It then follows that:

$$8 \text{ sec.} : X \text{ sec.} = (15)^2 : (20)^2$$

(The product of the means equals the product of the extremes.)

$$225X = 8 \times 400 \text{ or}$$

$$225X = 3200$$

$$X = 14\ 2/9 \text{ seconds exposure}$$

Question 2. If milliamperage is halved, what is the time? It stands to reason that it is 16 seconds.

Question 3. If all factors remain the same but the voltage is changed to 35,000 volts, what is the time? Rule: Time varies directly with the voltage. It follows that:

$$8 \text{ sec.} : X \text{ sec.} = 35{,}000 : 45{,}000$$

$$35{,}000X = 45{,}000 \times 8 \text{ then}$$

$$X = 360{,}000 \text{ divided by } 35{,}000 = 10.2+ \text{ seconds.}$$

It is quite understandable that any of these factors can be changed, but changing them depends upon the tissue to be radiographed, and the prime point to bear in mind is the time element. Therefore it becomes paramount that all these factors be considered. Suppose the antrum is to be radiographed in the antero-posterior position through the occiput. Now there is density in which the film-target distance must be shortened, the voltage raised, the milliamperage increased and the time adjusted correctly. To do this becomes very simple, if the time is first adjusted to the film-target distance, then the corrected time is *again* adjusted to the raise in voltage, and *again* this corrected time is further adjusted for the increase in milliamperage. Even then time exposure may be effected if intensifying screen or screens are used.

I can hear some of the readers say, "The writer would make mathematicians of us! Who can stop to figure and to calculate? Who has the time?" Quite true, but the hydro-electrical engineer, the

chemical engineer and the civil engineer understand very thoroughly their mathematics, but ease their burden of computation by means of logarithms, tables of figures and calculating machines. We can do the same.

The shorter the time exposure within limits, the better; there is less chance for the subject to move, hence intensifying screens are used. It is well known that about 1% of the x-ray has an effect on the film, while 99% passes on unutilized. To offset this great loss, the film is placed between two intensifying screens, which are nothing other than thin layers of calcium tungstate spread evenly on thick celluloid. The effect on the film is increased 300 to 400 times because the calcium tungstate absorbs the x-ray, becomes fluorescent and so increases the

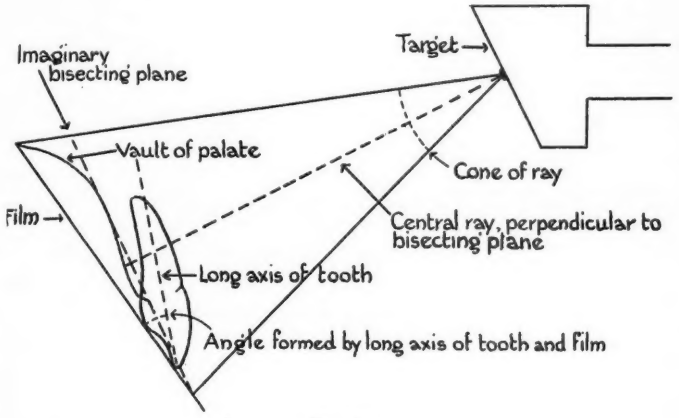


Fig. 3

intensity of the image. However, all these factors are of no great value if the film is not positioned correctly.

The mouth, in fact the head as a whole but the mouth in particular, does not lend itself very readily for the proper positioning of the film. The rule is: let the central ray be perpendicular to the bisecting plane of the angle formed by the film and the long axis of the tooth. To illustrate, let us take the upper central in a high vaulted and contracted arch where positioning is very difficult. (Fig. 3.) A moment's review of the diagram, and the rule becomes obvious. With the exception of the lower molar region only—perhaps inclusive of the second bicuspid—the positioning of the film is difficult and requires patience in adjusting and readjusting with the eye as a gauge. Practice and experience will make matters simple. There are devices on the market for aiding in the proper adjusting of the tube and, with aid of an

exposure slide rule on the one hand and foolproof radiograph units on the other, there is no reason why radiography should not be as common and as necessary as the electric drill. To crystallize the various steps in the radiographic procedure, the image must now be brought out, and here we must delve into the realm of bringing out the latent image on the film and fix it so that it does not fade away; and print it too—transfer the negative to a positive impression of the original object. This phase, however, is a subject in itself quite involved and intricate, calling into play laws of physics and chemistry that may well be left for another article.

16 Court Street

Speaking of "Trial" Dentures

The following letter was actually received by Dr. Arthur Cunningham of Middleboro, Mass. We have seen the original, and it is *indeed* original!

Sept. 17, 1924

Dear Sir:

I would like to know if you have false teeth for rent, if so how much would it cost to hire them until I am ready to have my regular set.

Mine gums are better now. But they are very troublesome to me when I am eating.

Yours Truly

JANE DOE

P. S. Could you please inform me if you insure furniture as I would like to insure mine furniture.

Dentistry of Today*

By Will Allen, D.D.S., Billings, Montana

Dentistry of today has developed into a scientific profession. We not only relieve pain and make artificial dentures, but have broadened out so that we now take our stand alongside our brother, the physician.

Dentistry is coming into its own, and members of the medical profession are looking upon us as an aid and a necessity, are referring patients to us daily for dental diagnosis and are depending on us for cooperation and accuracy in determining the cause of a great many systemic diseases. So it is up to us to make good. As Dr. Mayo says, "The next big step in the prevention of disease will come from the dental profession," or words to that effect. You see then that if we measure up to the standard set for us by the medical profession, we shall have to see farther than the gold shell or the Mother Hubbard crown and give patients more than they could buy in a jewelry store.

As dentists, if we want to get the most out of our profession—what will be a pleasure to ourselves and a joy to our patients—we shall have to do whatever will be best not only for the teeth but for the system and general health as well.

To illustrate, suppose some patient comes into your office with some old roots in his mouth and probably some devitalized teeth, etc., and you fix him up with beautiful bridgework and fine gold and porcelain fillings and turn him out with a complete set of grinders. Then suppose that patient afterwards develops arthritis, rheumatism, kidney or stomach trouble, or some other ailment that takes the pleasure out of life.

Then the patient goes to the physician, who examines him carefully and finds his tonsils in good condition and his alimentary and urinary tracts in good shape. After going over him quite thoroughly and finding no foci of infection, he will wind up by taking a look at his teeth and will probably tell him to have them examined and x-rayed; so they make a shadow plate of his teeth all around and find a few abscesses. Then the physician marks the teeth to be extracted, sends him back to his dentist or the exodontist to have them removed and probably spoils the beautiful restorations that you prided yourself on. How will the patient feel toward you? And how will you feel?

Now what I am trying to get at is this—that we should make an accurate diagnosis of the mouth and do the best thing for the patient, regardless of what remuneration we get out of it, for it pays better in the long run. In the case just cited it would have been far better if the dentist had extracted all devitalized and abscessed teeth and left

* Read before the Eastern Montana Dental Society.

the patient without anything to replace them than to leave o[illegible] blind abscess to infect the blood.

Just think how you would like to sit in a dental chair for hours to have some crown- and bridgework done and then have your physician order it out in a short time. It is being done every day.

In our work for a patient we should ever keep in mind the relation of the teeth to the general health. As the head is a combination of cells and sinuses, we realize that we are working on that part of the anatomy which is susceptible to many associated diseases. For instance, a malformed or impacted third molar, with pus oozing out from around the gingiva, might cause abscess of the tonsil or stiffening or setting of the lower jaw.

An abscessed superior bicuspid or molar may infect the antrum of Highmore and thereby infect the eye, ear, nose or throat, as this sinus communicates directly with the nasal fossae and indirectly, through the posterior nasal fossae, with the pharynx, then via the Eustachian tube to the tympanum.

The frontal sinus communicates with the posterior nasal fossae, also with the ethmoid by way of the anterior ethmoid cells. The spheroid sinus communicates with the ear, and the ear with the mastoid cells, so you see we have practically an air communication between all the intramural sinuses, and that is one of the reasons why we have to be careful in the extraction of teeth in the region of the maxilla.

The antrum of Highmore and, in fact, all the intramural sinuses are lined with mucous membrane, not strong and healthy like the lining of the nasal fossae but, on the contrary, pale, weak, flabby, undernourished, easily detachable and subject to infection. I think the maxillary sinuses or antrum of Highmore is almost ignored by dentists as a class (I mean the general practitioners) and 75% of all the antral diseases are caused from dental origin, the other 25% by the nasal fossae. Antral diseases are more numerous than we suspect. Many a root of molar or bicuspid has been pushed through into the antrum in extraction and left there to decay and cause various troubles. Much of the reflex pains are caused from engorged antra, as well as discharges and catarrhal conditions of the nose.

Most of the antral diseases that the dentist will have to treat are caused by acute and chronic abscesses of the superior bicuspids and molars, whereby the pus from these teeth has burrowed its way into the antrum. After the extraction of such teeth you should enlarge the opening with surgical bur through the tooth socket until there is free drainage, as well as easy access to wash. Never use strong medicines in the sinus; use normal salt solution preferably. In obstinate cases one-half of 1% of Dakin's solution or 15% Argyrol may be used. Pack with Iodoform gauze, and in about 10 days, or when infection

clears up (it may take considerably longer), you can close the opening with plastic operation, or pack with smaller-sized gauze until closed. But never go into the antrum under any consideration unless it is already infected, so be very careful after extracting abscessed teeth, and when curetting, not to puncture the lining of the antrum, as you would carry infection there and cause yourself considerable trouble, besides the discomfort to the patient. But if the pus has already found its way into the sinus, and the curette slips in without resistance, then proceed with the treatment as outlined above.

Focal infection or auto-intoxication is something we hear a great deal about, and when you consider that a large percentage of these cases come from the teeth or are of dental origin, we should ever be on the lookout for secondary infection, which may infect any part of the system.

Oral abscesses are primary infection, but through the absorption of pus into the general circulation we get the secondary or transported infection. Billings says: "The knowledge of the principles of secondary infection is of importance for preventive as well as therapeutic treatment." The recognition and removal of the focus are imperative to prevent secondary disease and are demanded as a fundamental principle to stop the progression of ill health.

Oral foci cause secondary infection via the capillary or lymph system. Absorption is most likely to be caused by blind, acute or chronic abscesses, but it also occurs from pyorrhea pockets, diseased gums and other lesions of the mucous membrane.

Now knowing the far-reaching effects of pathology of the teeth, if we put ourselves in the position of the patient, I think we should have fewer shell crowns, fewer devitalizations, etc. Why not strive to obtain as near the 100% vitality limit as possible? If we do, I think we shall raise the standard of dentistry, better the health of our patients and be more of a satisfaction to ourselves.

314 Hart-Albin Bldg.

Periodontoclasia—A Study in Clinical Observations*

By Sidney Sorrin, D.D.S., New York, N. Y.

Either insufficient or excessive function has been found to be the predominating factor in the production of periodontoclasia. Of these two, excessive function is by far the more common and to it has been given the name "traumatic occlusion." Study in etiology and results in treatment have proved effective. It has been demonstrated that dental operations can be correctly performed only by one who has a thorough working knowledge of periodontology, for every operation the dentist performs, with the exception of full denture prosthesis, has a definite influence upon the health of the periodontium.

In the Periodontia and Preventive Dentistry Clinic of New York University we have found that traumatic occlusion was the dominating factor in 85% of the cases. We have been most successful in nearly all of the cases we have treated. Our success has been due to four things: (1) the relief of traumatism and balancing of occlusion; (2) instruction in the correct use of the toothbrush, as advocated by Dr. Stillman; (3) proper scaling and prophylactic care; (4) talks on diet.

The more one studies the etiologic factors, the more one becomes convinced that traumatic occlusion is the most important cause in the production of periodontal disease. The constitutional factors play an important part in only a few cases.

Clinical observation has shown that the theory that acid mouth causes erosion cavities, which we find in some traumatic occlusion cases, is erroneous. In the majority of cases under my observation the causes of erosion cavities are as follows: (1) traumatic occlusion; (2) insufficient functioning; (3) rough margins of fillings; (4) incorrect use of the toothbrush, floss silk and tooth paste. In some cases the teeth suffering from erosions cavities are receiving too much stress in either centric or eccentric occlusion. The relief of this stress plus desensitization of the affected part by the use of 40% formalin dried with warm air has produced most satisfactory results. If the cavities are superficial, they need no further attention except that they should be smoothed. If it seems desirable, shallow fillings may be placed.

Diet is important in our dental disturbances because many children are habitually given food which is lacking in the elements that are body-builders. Recently a child, eleven years of age, came to the clinic suffering with a severe gingivitis resembling scurvy. All the teeth were loose and there was advanced absorption of the bone sur-

* Summary of a paper read before the Pathodontia Section of the First District Dental Society, New York, October 19, 1925.

rounding the teeth. The child was pale and emaciated and there were evident indications of malnutrition. She had refused to take nourishing food. All her teeth had to be extracted.

The results in the treatment of Vincent's infection have been amazing. As a last resort, a man 27 years of age who had been treated by 10 dentists came to the clinic for relief. He was in a state approaching collapse and suffering intense pain. The odor from his mouth was unbearable, necrotic tissue was abundant all around the teeth, and the red line of demarcation was readily discernible. There was bleeding at the slightest provocation, and extreme soreness. Smears were taken and Vincent's spirillum was present. We first removed as much necrotic tissue as possible and followed with an application of Churchill's iodine, and then 20% of silver nitrate. A mouth wash of sodium biborate was prescribed for use at home, to be made fresh every hour. A cathartic was also given. The next day the patient was much relieved. At the end of a week the condition had improved so much that we were able to curette deeply. After two months of prophylactic care, scaling, balancing of occlusion, talks on diet and the use of a toothbrush, he was discharged. Three months later he came for reexamination and there was no trace of the disease. Traumatism played an important part in reducing the resistance of this patient.

We have treated another type of case that is seen daily in practice, the person with hypertrophied tissue. Cauterization and excision should be employed only as a last resort. One patient of this type complained of a growth extending across the labial surfaces of the lower central incisors and the left lateral and reaching to the incisal edges of these teeth. The lower jaw was protruded to such an extent that the lingual surfaces of the lower centrals and the left lateral were striking the labial surfaces of the uppers with great force. The malposition was relieved, the deposits were removed, and instruction in the use of the toothbrush was given. In three weeks the growth had gone down to half its former size and in a month to one-quarter of that size. It is still under observation.

We are often asked how we achieve such results. In most cases these steps are followed with astonishing results: (1) a careful study of the periodontium, that is, the tissues supporting the teeth; (2) the use of Dr. McCall's new chart, by means of which we are able to make complete records, a thing of great importance; (3) the institution of proper prophylaxis. Much depends upon the ability of the operator to remove deposits properly without causing unnecessary damage; (4) the relief of traumatic occlusion and non-occlusion by grinding or by replacements with fillings, inlays, crowns, bridges, or dentures; (5) talks on diet and demonstration in the correct use of the toothbrush.

The toothbrush drill advocated by Dr. Stillman has been both beneficial and necessary to bring about the desired results.

Much depends upon the cooperation of the patient, since a careless or slovenly patient will receive little benefit at the hands of the periodontist.

Dr. Holmes C. Jackson

NEW DEAN OF NEW YORK UNIVERSITY COLLEGE OF DENTISTRY

Dr. Holmes C. Jackson, Professor of Physiology in New York University and Bellevue Hospital Medical College, has been named Dean of the New York University College of Dentistry, according to recent announcement from the University Council. The College of Dentistry was formerly known as the New York College of Dentistry until it became a part of New York University last spring.

Dr. Jackson has been a member of the faculty of New York University and Bellevue Hospital Medical College since 1901, except for four years when he was on the staff of Albany Medical College. He has been Professor of Physiology since 1909.

When the New York College of Dentistry became part of New York University last spring, Dr. Jackson was appointed Assistant Dean of the Medical College, to be in charge of dental instruction given in the medical school and to serve as liaison officer between the medical and dental colleges.

Dr. Jackson received the degree of Bachelor of Philosophy from Sheffield Scientific School at Yale in 1896 and that of Doctor of Philosophy in 1899. Preceding his appointment to New York University he studied in Germany.

He is a member of many scientific societies, a contributor to medical and physiological journals, and the author of a *Manual of Physiological Chemistry* and *Laboratory Exercises in Physiology.*

Dr. Jackson will be in charge of the third oldest dental college in the United States. The New York University institution now has an enrolment of 565 students. Last year more than 50,000 patients were treated at the free clinic, which is the largest in the United States.

Old World Wanderings of an American Dentist

By John Jacob Posner, D.D.S., New York, N. Y.
Visiting Dental Surgeon, St. Luke's Hospital, New York

Holland and Belgium

It is not difficult to find No. 320 Ondegracht Street. You simply follow the bank of the picturesque canal as it winds its way gently through the heart of Utrecht. Soon you see before you the only dental school in Holland. In the early morning sunlight the white front of the building fairly gleams with cleanliness. The words "Dutch" and

Dental School in Utrecht

"Cleanser" unite as readily as ham and eggs! From the polished door knob, as you enter, to the operative floor under its glass roof, every nook and corner is spick and span. In no other dental building of the many countries I have visited, including those in America, has this pleasing note of spotlessness been so evident. The students too were unusually bright-looking and wore immaculate coats.

Dr. de Groot is dean of the *Tandheelkundig Instituut der Rijks Universiteit.* He is a very progressive man with entirely modern ideas. Besides being the head of the Dental School, Dr. de Groot is Professor

Wind Mill
in Holland

A Dental
Office
in Belgium

of Anesthesia and Oral Surgery. The cheerful operating room is up-to-date in equipment, and the x-ray pictures and case histories are evidence of an extremely active clinic. The bulk of the work is done under local anesthesia. At the invitation of Dr. de Groot I took over the senior class during his morning lecture period and presented local anesthesia simplified. It is interesting to note that, with no exception, all the men understood and spoke English. The school has three hundred students.

The dental situation in Belgium is in a deplorable condition. There is no law at present in force to restrain the mechanical dentist from operating with exactly the same privileges as the college graduate. As has been learned from other countries, dentistry under such circumstances advances but slowly.

Old Houses in Ghent

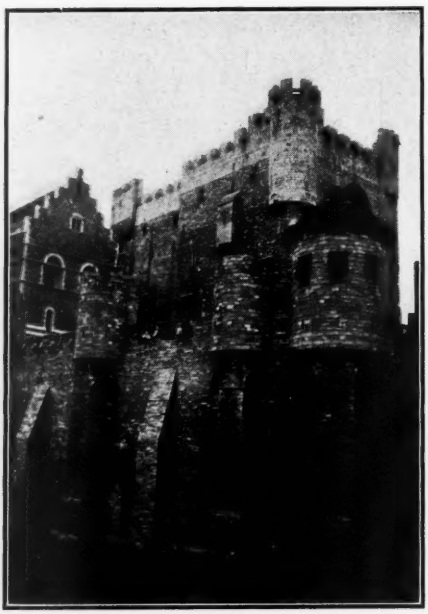
Bruges and Ghent are two quaint cities of Belgium. They are very old and extremely interesting, for many of the sixteenth and seventeenth century houses are still standing. The Castle of the Counts of Flanders in Ghent is of the fourteenth century and open to visitors. You prowl about the stone-floored torture chamber and meditate over the dreadful scenes enacted here. Above are the rooms of the princess and the banquet hall. Still mounting by a rocky spiral stairway, you come out on the lead-covered roof. Before the portholes, the rough parapet has been smoothed and polished by the hands of these formidable men.

The Cathedral of St. Bavon, the interior of which is probably the most beautiful in Belgium, contains the famous *Adoration of the Lamb.*

A Canal in Ghent

This was painted by Jan and Hubert Van Eyck for Philip the Good in 1420.

Bruges boasts of its belfry. The 405 steps lead you to the top and deposit you in a state of breathlessness. After a little rest you look



Castle of the Counts of Flanders

A Canal in Bruges

about and discover the bell-ringer. The quarter-hours are accompanied automatically by a selection on the bells. There are 48 of them, the "big bass" bell itself weighing several tons. For a few francs the bell-ringer will play a tune.

Brussels, Amsterdam, Haarlem and The Hague have fine picture

Dogs in Harness in Belgium

galleries, rich in Flemish examples. Franz Hals painted in Haarlem, and Rembrandt in Amsterdam. The Hague Museum contains many works of Rembrandt, the most famous of which is his *Study in Anatomy.* This shows a man in black dissecting the arm, with seven students in ruffled collars and pointed beards looking on. Here also are many examples of the changed technic of the master painter during the later period of his life. Rembrandt finally died in misery and poverty. Franz Hals was given an allowance by the Government, as he also was penniless. Perhaps his jolly pictures, depicting laughing men and women with fingers firmly entwined about the handles of capacious steins, were "done on the premises."

The Peace Palace at The Hague has been richly furnished by contributions from all the nations. Some gave marble, others carved wood, rich rugs, mosaics, tile and furniture. I saw it first in 1914, and on this visit it still impresses me as a cold, unfriendly place. Some day perhaps the various countries will each give a little of the brotherhood of man. For that, the simple log cabin of Lincoln would be adequate.

Knickerbocker Building.

Pyorrhea Alveolaris

By S. Joseph Bregstein, D.D.S., Brooklyn, N. Y.

That deviation from the normal gingival condition characterized by bleeding, pussy areas has been christened with almost as many names as are contained in a United States census. If the efforts expended toward contriving names for the disease were directed to the proper angle, we might by this time be on the right track to a successful cure.

In a certain play, *Cyrano de Bergerac,* a leading character addresses the hero as "pig, blackguard, murderer, outlaw," and the like, to which he replies, "I'm pleased to meet you! And my name is Cyrano de Bergerac." Calling a disease names such as periodontoclasia, alveoloclasia, pericementoclasia, and so on ad infinitum, the tissues, like Cyrano de Bergerac, can similarly retort, "I'm pleased to meet you! And my name is Pyorrhea Alveolaris."

To treat a case properly, we must first make a proper diagnosis. In diagnosing any case in medical science we must have two factors in order to render our opinion. They are, (1) history and (2) symptoms (objective and subjective).

In studying the history of a pyorrhetic case we must investigate thoroughly the etiological factors, in which are included faulty bridges, gingival calculus deposits, poorly fitting dentures or restorations, specific microorganisms and malocclusion. It is necessary, in order to arrive at a proper conclusion, to exhaust all the information we can in our search for the underlying productive agent of the condition. To point to any one particular cause and attribute the inception of all pyorrhetic cases to it has been quite a common fallacy. In years gone by, poor unsuspecting streptococci and spirilla were designated as visiting their satanic influence upon the teeth and their environs. However, this theory was not found infallible. In more recent times certain investigators reported malocclusion as the disturbing factor. Nevertheless, from an observation of hundreds of cases in the course of general practice, we can, without fear of repudiation, state that pyorrhea is brought about by one or all of the aforementioned conditions and that the etiology cannot be generalized. In order to treat a case according to the precepts of good practice, we must make a thorough search of each of these factors and treat the case accordingly.

Very often, by removing a filling which has been impinging on the gum, we can clear up in a few sittings an incipient pyorrhea in that area. Poorly fitting dentures which do not occlude properly, clasps gripping abutment teeth with too great a force, crowns cutting into the pericementum, all contribute their share toward creating pyorrhea.

Spaces resulting from previous extractions permitted to remain after complete alveolar resorption in that area will cause a shifting of

surrounding teeth. Every tooth in the mouth has a definite function. In order to perform that purpose, it has been placed also in a definite position. All through nature we notice a marked tendency for protoplasm to take the path of least resistance. Such is also the case in the buccal cavity. When a tooth moves its position by the work of the osteoblasts and osteoclasts to close a space formed by an extraction, that tooth by virtue of its new environment loses its position, also its particular function. Malocclusion results, and the improperly directed force of mastication causes gingival inflammation, peridental and bone resorption, and once more we shall call it pyorrhea alveolaris. The writer has numerous wax models containing actual teeth which have been extracted because of just such a neglected condition.

Another very common cause is due largely to neglect on the part of patients. In spite of all propaganda and education along hygienic lines certain patients will allow their mouths to become literal cesspools. Deposits of salivary calculus and debris are permitted to remain especially about the necks of teeth, resulting in pressure against the peridental and surrounding gingival membrane. Gradually this pressure causes a destructive inflammation with consequent alveolar necrosis. Then we have a purulent exudate, which is next to impossible to eradicate entirely. It is advisable at this stage of the disease to make cultures of the exudate and determine whether the etiology can be traced (as in Vincent's angina) to a specific organism.

For a rational treatment of pyorrhea in general, to summarize, it is well to delve into all possibilities which might be the exciting agent and by an eliminatory process arrive at a positive diagnosis as to the causa prima.

The writer, after removing the initial cause, has found satisfactory results to relieve inflammation by using the following:

℞ Tr. Persionis—gtt XV.
Ol. Gaultherea—gtt V.
Sat. Soln. Ac. Boricum—one ounce
Liq. Aluminum Acetatum qsad—ounce IV
Mx etS. Zt in ½ glass lukewarm aqua b.i.d. collut.,

or in more advanced cases the following:

℞ Ac. Tannicum et Glycerini—ounce II
Swab as directed.

In treating pyorrhea we want the tissues to react to our stimulations, hence patients under such treatment must be instructed to keep the general system at par. Elimination of the bowels and kidneys must be regular in order to ensure the proper body resistance which renders tissues more receptive to treatment.

6729 Fifth Avenue.

Togo's "Discursions"

Mr. Editor of Magazine furnishing Dentistry of more or less Digestibility.

Hon. Sir:—

Japanese brains are experiencing slight feelings of enlargement owing to amiable comments occasionally expressed but often only suspected on part of intelligent readers.

Many subjects requiring considerable ventilation at present moment Mr. Editor, but season of Vast Annual Consequences is now rapidly approaching & assuming 1st place in all minds. Hon. Papas entertain premonitions of writer's cramp as first sign is read containing all unnecessary information as to scarcity of shopping days remaining until finish line is crossed if strength remains to do so.

Christmas is mysterious occurrence, Mr. Editor, not readily comprehended by Oriental brains; however all Dental Bosses benefited by my previous services have agreed on following facts: Christmas presents Zero Hour in all Dental Practices! Hon. Ladies are entirely busy elsewhere while all Mere Men are experiencing such pains in financial centers that trifles consisting of exposed pulps & distracted 3rd Molars are completely submerged for time being.

Owing to fact that Dentistry is usually practiced by man displaying daily shave and white collar while doing it, opinions are plentiful that Hon. D.D.S. is permanent resident of Easy St. & total stranger to horrors arriving regularly by U.S. Mail or Special Messenger on first of every month in case of ordinary though Hon. Average Citizen.

"Ah ha!" is delicious & inexpensive thought reverberating through solitary brain cell of Hon. Av. Cit. "Doctor of D.D.S. is always prosperous & all daily papers and most monthly magazines contain distracting picture stories calculated to frighten all readers into making him more so at early date of immediate future. Bill which I owe him for work done before leaving on Summer Fishing Trip can now wait until after date of Jan. 1st owing to high prices of fur coats and other Santa Claus necessities acutely needed at present Season completely filled with Good Will & Tinkle of Cash Registers."

So in addition to discouragements caused by patients too busy to attend to tooth disasters, further emaciation of Bank balance is caused by those who successfully forget to pay accounts already overdue.

"What to do?" are pertinent inquiry arising in all minds of D.D.S. degree.

Several things are possible of which a few may perhaps be practiced

by all having brains which still maintain an open season for new ideas.

Various dental catastrophies occurring to Human Being are of nature which makes it possible to plan for treatment at carefully selected time of advanced date. Denture patients sadly needing installation of non-skid lower plates; jacket crown cases which have been slowly ripening under mellowing influences of not so near "Porcelain" fillings; interproximal amalgam cesspools which have preserved the teeth but destroyed the sunny disposition & interproximal gum tissue of the patient; all these and various other services of large denomination can be adroitly planned to ripen and fall from the tree during slackness resulting from Holidays, if proper effort is made beforehand by intelligent dentist.

Art of Coaxing Cash from Collapsed Consciences is capable of Cultivation to Considerable extent but must be approached in sporting spirit & not taken too seriously or offence will be given where only stimulation was intended. Slight personal touch is desirable in all requests for payments. Art of individual approach should be studied in collections as well as in high powered selling talks (in which entire trouble possibly originated in extreme cases)!

Glory of Professional Life is fact of well intentioned Service to Humanity & this policy if strictly adhered to will usually result in comfortable Cash Balances which may frequently become of sufficient size to pass through Holiday period without becoming completely exhausted.

Hoping you are the Same,

Yours considerably,

Togo.

Announcement of Changes

At DEANER INSTITUTE, Kansas City, Mo.

The Deaner Institute announces that Dr. W. H. Jordan is no longer connected with the institution. Dr. Jordan has been prominently identified with the development and management of the organization since its inception. His resignation was presented to the Board of Trustees and accepted by them on September 3, 1925.

The Board of Trustees is composed of: Mr. Wm. Volker, Mr. Andrew Young, Mr. Sigmund Stern, Dr. Lindsay Milne, Judge Jos. A. Guthrie, all of Kansas City, Missouri.

The Administrative Council of the staff is composed of Dr. Willis A. Coston, Dr. M. M. House and Dr. R. L. Haden. Dr. House is General Director of the organization, Dr. Coston is Director of Dental Diagnosis, and Dr. Haden has charge of the Department of Medical Research.

Dr. John W. Needles of Pueblo, Colorado, is soon to become a member of the Deaner staff, in charge of the Department of Mechanical Research. Dr. Needles is well known in the profession as a man of outstanding ability. It is with pleasure that the Deaner Institute announces his association with its organization.

Many inquiries and requests for postgraduate work have been received. The first series offered will begin December 28, 1925, and continue to January 8, 1926, inclusive. This will be an intensive course in the study of full and partial denture work, considered especially from the standpoint of anatomical articulation.

The first week will be devoted to lecture and demonstrative work, and the second week to carrying out the work in a technical way, at which time all members of the class will be required to build and complete a case. Special attention will be given to the consideration of adjustable articulators, etc.

During the period of the course, clinics and lectures will be given by members from the different departments in the institutional work, as follows:

Reproduction of Natural Teeth in Porcelain in Both Form and Color Distribution.
Diagnosis and Designing of Appliances.
Crown- and Bridgework.
Medical Research.
Nutrition and Diet.

Work will also be presented regarding children's dentistry, etc., as being conducted at the Institute.

Your Christmas Seals and What They Do

Tuberculosis Christmas seals are again for sale on the candy counters, cigar stands and hotel desks of the country. Millions of them, too, are pouring into our homes by mail, with the request that we purchase the little stickers and so further strengthen the campaign against one of the world's greatest scourges.

This year the Christmas seal comes of age. It is just twenty-one years since an obscure postal clerk in Denmark conceived the idea of a decorative stamp to be placed on Christmas mail as a means of raising funds for a hospital for tuberculous children. A few years later the first Christmas seals that were sold in the United States raised $3,000 for the purchase of a sanatorium site in Delaware. Last year 1,250,000,000 seals were printed for the National Tuberculosis Association and their sale brought approximately $4,500,000 into the coffers of the 1,500 organizations affiliated with the national body.

During these years the Christmas seal has helped to finance hundreds of local, state and national campaigns to secure hospitals, sanatoria, clinics and dispensaries. At least 20,000 public health nurses are at work in the schools and homes to educate children and parents in the rules of healthful living. In this way minor physical defects are detected and, because of early treatment, a physical breakdown in later life with tuberculosis or some other serious disease is often prevented. Every large city nowadays has its open-air schools, preventoria and nutrition classes where the children of tuberculous parents and others below par are brought to normal weight and strength. Approximately 3,000 such institutions are in this country at present. The Christmas seal has made possible the Modern Health Crusade, the largest child health movement in the world, through which 8,000,000 school children have been taught daily habits of cleanliness, diet, exercise and rest so that they may develop into robust men and women.

Our participation in the annual Christmas seal sale is an investment in individual and community health. More than that, we become a part of the message of hope which the seal carries to the many thousands who otherwise become victims of a preventable and curable disease. In all truth, the mission of the Christmas seal is joyous health.

Help to prevent the world's greatest scourge

DENTAL LAWS

Summary of Dental License Requirements Throughout the World

By Alphonso Irwin, D.D.S., Camden, N. J.

PERNAMBUCO

This is one of the most important states of Brazil. The Portuguese language, credentials and citizenship are required. See Brazil for other dental regulations.

PERSIA

If a graduate of a reputable American dental college wishes to practise his profession in Persia, his diploma must be certified by the proper authorities, viz.: By the Secretary of State in his own State, by the Secretary of State of the United States, and then the Legation will certify the Secretaries of State and the U. S. seal. The applicant must have practised dentistry for three years. This is all that is required. The Mohammedans control in Persia at the present time and they do not encourage alien doctors of any kind to locate there.

PERU (Callao)

The Peruvian regulations require that physicians and dentists who are graduates of foreign universities, and who desire to practise their profession in Peru, shall present themselves before the Faculty of Medicine of the University of Lima, bringing with them the diploma of the university from which they have graduated, with the signatures properly legalized by the Peruvian Ministry of Foreign Affairs, and a certificate of personal identity issued by the Minister or Consul of the nation of the applicant resident in Lima. In the absence of these officially, there must be produced a legal identification by witnesses.

Graduate dentists of foreign universities must pay the fees of matriculation, which amount to $244, and stand two examinations in this order: 1. Theoretical, which comprises anatomy and physiology of the mouth; 2. Theoretical-practical, which comprises pathology of the mouth, and the performance of one operation in dental surgery.

The requirements for surgeon dentists who desire taking the examinations above referred to are the same as those exacted of physicians and surgeons, namely: The fees, which are to be paid before taking the examinations, amount to $493 American currency, which is the equivalent of the dues incurred by an alumnus receiving his medical instruction in the University of Lima. The examinations are five in number, and are taken in the following order:

1. Theoretical-practical. The theoretical comprises descriptive, general, normal, and pathological, anatomy, and general and human physiology. The practical consists in actual dissection of the cadaver, together with a proper description of such dissection.

2. Theoretical-practical. The theoretical comprises general pathology, and internal and external nosography, while the practical consists in the performance of one or two surgical operations upon the cadaver.

3. Theoretical, which comprises medical natural history, medical chemistry, and medical physics.

4. Theoretical, which embraces therapeutics, and materia medica, medical jurisprudence and toxicology, and hygiene.

5. Practical, which comprises the clinical examination of a patient, another of surgery, and another of obstetrics; also, diagnosis, treatment, and clinical histories.

Persons in the United States contemplating practising these professions in Peru, and desiring more detailed information than is here presented, or printed copies of the exact laws, regulations, etc., governing such matters, should invariably address themselves to the Dean of the Faculty of Medicine of the University of Lima (El Decano de la Facultad de Medicina de la Universidad de Lima), Lima, Peru.

PESCADORES ISLANDS

These twelve islands, with a total area of only fifty square miles, lie north of Formosa toward Japan. They are under the Formosan Government. See Formosa for the dental license regulations, also Japanese colonial dental laws.

PHILIPPINE ISLANDS

Administrative Code of the Philippine Islands

Board of Dental Examiners: President, Hilario P. Perez, De La Lama Building, No. 2, Manila, P. I.; Luis Antonio, 1303 Sands, Manila, P. I.; Leon Almeda, 1617 Herran, Manila, P. I.; Secretary-Treasurer, Jose V. Gloria, 1834 Azcarraga, Manila, P. I.

The dental laws are dated 1879, 1903, 1915, 1916, 1917, and 1925.

Sec. 786. Functions and Duties of Board.—The Board of Dental

Examiners is vested with authority, conformably with the provisions of this chapter, to issue and revoke certificates of registration for practitioners of dentistry. The Board shall study the conditions affecting the practice of dentistry in all parts of the Philippine Islands and shall exercise the powers herein conferred upon them with a view to the maintenance of efficient ethical and technical standards in the dental profession.

Sec. 787. Each member of the Board shall hold office for a term of three years from the date of his appointment, the terms of the first appointees having been so adjusted that one expires upon the thirty-first day of December of each year. Interim vacancies shall be filled by appointment for the unexpired term only.

Sec. 788. Removal of member of Board.—The Department Head may remove any member of said Board for neglect of duty, or incompetency, or for unprofessional or dishonorable conduct, or for any other just cause.

Sec. 789. Annual election of officers.—At its annual meeting to be held on each second Tuesday of January the Board shall elect from its members a president and a secretary-treasurer for the current year. The president shall be the chief executive officer of the Board.

Sec. 790. Duties of secretary-treasurer.—The secretary-treasurer shall keep a record of the proceedings of the Board, and a register of all persons to whom certificates of registration have been granted, setting forth the name, age, place where established, post-office address, the name of the dental institution from which he graduated or in which he has studied, the date of such graduation or upon which he finished his studies, together with the time spent by him in the study of dentistry, and the names and locations of all other institutions which have granted to him degrees or certificates of attendance, clinics, or lectures in medicine or dentistry.

Sec. 791. Compensation of members.—The secretary-treasurer shall receive from Insular funds annual compensation at the rate of three hundred pesos per annum, and the other members of the Board shall likewise receive from Insular funds the sum of five pesos for each candidate examined for registration as a dentist. The compensation of the secretary-treasurer shall be paid one-half on the thirtieth of June and the other half on the thirty-first of December of each year.

Sec. 792. Annual report.—The Board shall make an annual report to the Department Head, giving an account of its proceedings during the year covered by the report and a statement of moneys received and expenses incurred by it during such period.

Sec. 793. Regulations.—Regulations governing examinations and determining the standards to be attained in them and generally such other regulations as may be necessary to carry the provisions of this

chapter into effect shall be promulgated by the Board of Dental Examiners, with the approval of the Department Head.

Sec. 794. Inhibition against practice of dentistry by uncertificated person.—Except as otherwise specially provided, no person shall practise dentistry in the Philippine Islands without having previously obtained a certificate of registration as dentist from the Board of Dental Examiners.

Any person shall be regarded as practising dentistry, within the meaning of this section, who shall for a fee, salary, or other reward, paid to himself or to another person, perform any operation or part of an operation upon the human teeth or jaws, or who shall treat diseases or lesions or correct malpositions of the teeth; but this provision shall not apply to artisans engaged in the mechanical construction of artificial dentures or other oral devices, or to students of dentistry practising in any legally chartered dental college or establishment on patients under the direction of a professor in such college or of a dental surgeon of such establishment; nor shall this section be construed to interfere with the legitimate practice of physicians and surgeons conducted in conformity with the provisions of the Medical Law.

Sec. 795. Persons exempt from registration.—Registration shall not be required of dental surgeons of the United States Army or Navy in the Philippine Islands while on duty as such for the members of said Army or Navy.

Sec. 796. Examination requirement.—All applicants for registration under the provisions of this chapter shall be subjected to examination as hereinafter provided.

Sec. 797. Semi-annual examinations.—The Board of Dental Examiners shall meet in the city of Manila for the purpose of examining candidates desiring to practise dentistry in the Philippine Islands on the second Tuesday of June and December of each year.

Sec. 798. Prerequisite qualifications for examination.—Every person applying for examination under the provisions of this chapter shall furnish to the Board satisfactory proof that he is of good moral character and that he has received a diploma as either doctor of dental medicine or doctor of dental surgery from an institution duly accredited and legally constituted, in which the following branches are taught during three years in regular nine-month courses—anatomy, physiology, histology, bacteriology, operative dentistry, chemistry, dental prosthesis, metallurgy, dental anatomy, porcelain work, crown and bridge work, therapeutics and materia medica, general pathology, buccal pathology, minor surgery and anesthesia, surgery of the mouth, and dental jurisprudence.

Any school, college, or university shall be deemed to be duly accredited and legally constituted, within the meaning of this section, if

it is incorporated in the Philippine Islands and issues diplomas and confers degrees in conformity with the requirements of the Corporation Law.

Sec. 799. Scope of examination.—The examination shall comprise all of the subjects of dental surgery and other auxiliary subjects, in accordance with the teaching plan of the principal and best dental institutions having the best reputation for the excellency of their teaching.

Sec. 800. Issuance of certificate of registration.—Every candidate who accomplishes the aforesaid examination in a satisfactory manner shall receive a certificate of registration as dentist.

All certificates shall be signed by a majority of the members of the Board and shall be attested by its official seal.

Sec. 801. Temporary certificates of registration.—Any two members of the Board may issue a temporary certificate of registration to practise dentistry to the applicant upon presentation by such applicant of satisfactory evidence that his moral, educational, and professional qualifications conform to the standards prescribed in this chapter for the practice of dentistry.

Such certificate shall be valid only until the next regular meeting of the Board, at which time the person to whom it has been issued shall report for examination. Temporary certificates of registration shall be issued only when the Board is not in session and will not meet within thirty days. In no case shall a temporary certificate of registration be renewed or extended, nor shall a second temporary certificate of registration be granted to any person. The applicant shall also file in said office an affidavit to the effect that it is his intention to appear at the next regular meeting of the Board and to submit to an examination with a view to obtaining a permanent certificate. Should he appear and pass a satisfactory examination, a permanent certificate shall be granted to him without additional charge; but should he fail to appear or pass a satisfactory examination, the money deposited by him shall not be returned to him.

Sec. 802. Fees to be collected.—The secretary-treasurer of the Board of Dental Examiners shall charge the following fees:

For admission to examination twenty pesos.

For each certificate of registration as dentist, or temporary certificate, thirty pesos.

Sec. 803. Refusal of certificate for certain causes.—The Board of Dental Examiners shall refuse to issue a certificate of registration to any person convicted by a court of competent jurisdiction of any criminal offense involving moral turpitude, and to any person guilty of immoral or dishonorable conduct, or of unsound mind, and in the event of such refusal shall give to the applicant a written statement

setting forth the reason for its action, which statement shall be incorporated in the record of the Board.

Sec. 804. Revocation of certificate.—The Board may also revoke a certificate for like cause, or for unprofessional conduct, malpractice, incompetency or serious ignorance or malicious negligence in the practice of dentistry, willful destruction or mutilation of a natural tooth of a person with the deliberate purpose of substituting same by an unnecessary or unessential artificial tooth; for making use of fraud, deceit, or false statements to obtain a certification of registration; habitual use of intoxicating liquors or medicines causing to become incompetent to practise dentistry; the employment of persons who are not duly authorized to do the work that under this chapter can be done only by persons who have certificates of registration to practise dentistry in the Philippine Islands; the employment of deceit or any other fraud with the public in general or some client in particular, for the end or purpose of extending his clientele; making false advertisements, publishing or circulating fraudulent or deceitful allegations regarding his professional attainments, skill or knowledge, or the methods of treatment employed by him.

Sec. 805. Appeal to Department Head.—The revocation of a certificate of registration made by the Board, after having duly notified and heard the party concerned, shall be subject to appeal to the Department Head, whose decision shall be final in all cases.

Sec. 806. Reservation in favor of dentists heretofore certificated.—Dentists and undergraduate dentists who are holders of certificates lawfully issued since the tenth day of January, nineteen hundred and three, shall not be required to register anew under the provisions of this chapter; and no certificate of the grade of undergraduate dentist shall be issued in the future.

Sec. 807. Display of name and certificate of registration.—Every practitioner of dentistry shall display in a conspicuous place upon the house or office where he practises, his name and surname, and he shall further display his certificate of registration in his office in plain sight of patients occupying the dental chair. Any owner or proprietor of a dental office or establishment is also under obligation of displaying in conspicuous places upon the office or establishment the names and surnames of each and every one of the persons practising dentistry in said office or establishment, and of displaying the certificates of registration of each and every one of such persons in the same manner as hereinbefore provided.

Sec. 808. Illegal use of diplomas or titles.—No person shall in any way advertise as a bachelor of dental surgery, doctor of dental surgery, master of dental surgery, licentiate of dental surgery, doctor of dental medicine, or dental surgeon, or append the letters, B.D.S.,

D.D.S., M.D.S., L.D.S., or D.M.D. to his name, who has not had duly conferred upon him by diploma from some school, college, university or board of examiners qualified to confer the same, the right to assume said title, nor shall any person assume any title or prefix or append any letters to his name to represent falsely that he has received a dental degree or certificate of registration.

Sec. 2679. Violation of Dental Law.—Any person violating any provision of the Dental Law shall, upon conviction, be punished for each violation with a fine of not more than one thousand pesos, or by imprisonment for not more than one year, or by both, in the discretion of the court.

PIAUHY

This is a state of Brazil. The Portuguese language, credentials, naturalization are required. For other details see Brazil dental license requirements.

POLAND

The 1924 Polish Dental Laws are restrictive, if not actually prohibitive, for a foreigner educated in schools outside of that country. The majority of practising dentists are Russian and German trained. A list of Polish Dental Schools indicate that that country is now well supplied with dental courses in their colleges.

They include:

Panstwowy Instytut Dentystyczny (Government Dental Institute), 151 Marszal Kowska, Warsaw, Poland.

Instytut Dentystyczny Uniwersytetu Jana Kazimierza (Dental Institute of the John Casimir University), 5 Zieloma, Lwow, Poland.

Instytut Stomatologiczny Uniwersytetu Jagiellonskiego (Stomatological Institute of the Jagiello University), Krakow, Poland.

For other information address the dental institution nearest the city in which you desire to locate.

Verified October 12, 1925.

PRACTICAL HINTS

This department is in charge of V. C. Smedley, D.D.S., and George R. Warner, M.D., D.D.S., 610 California Building, Denver, Colorado. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to them.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Contribution containing names of proprietary articles will be altered in accordance with this rule. This Department is conducted for readers of the DENTAL DIGEST, and the Editor has no time to answer communications "not for publication." Please enclose stamp if you desire a reply by letter.

REPLACING BROKEN CROWN ON SMALL ROOTS. Sometimes a case presents with a receding gum about a porcelain crowned root. With lateral incisors to remove the pin may result in a cracked root. A simple method that is effective is as follows:

Take a carborundum disc and make a slit in the porcelain crown, which may readily be broken with an instrument. Take a stone and grind down on both sides of the root a little under the gums; the little portion that cannot be reached labially and distally can be removed with a cone bur. Prepare the root as if the pin were not in place.

Next select the proper crown, and take a small stone and enlarge the post hole which is in the crown, keeping the stone wet while grinding.

It is possible to make jacket crowns by grinding the crown with the small stone, but it would require quite a large crown to be practicable.

The type crown that has the pin baked in sometimes breaks. This pin is too large for the regular detached crowns. The new crown can be reamed out and the same pin used.

DR. G. E. COX.

Editor Practical Hints:

I have a patient who wishes small diamonds set in the labial surface of two perfectly sound incisors. I have cavity prepared in one of these teeth for porcelain inlay, and have attempted to bake a seat for the diamond in the porcelain by imbedding the diamond into the moist porcelain powder in the matrix and removing the diamond, leaving a perfect impression in the unbaked porcelain, but on baking the porce-

lain flows or settles into this depression, leaving it with shallow and rounded edges. Can you, from your experience, give me any information as to how to handle this case?

H. L. D.

P. S.—If you publish this correspondence please use initials of name only.

ANSWER.—I think I can appreciate, Doctor, your desire that this question, if published at all, should not be published over your full name, as I am very sure that if I were contemplating a piece of wanton vandalism, such as the mutilation of sound teeth for the purpose of blemishing them by the insertion of diamonds or anything else unnecessary to their preservation, I too would ask that my name should not be published in connection with the fact.

I can give you no advice from my experience in this class of dentistry, but my judgment tells me that if I were obliged, for some reason which I cannot even imagine, to set a diamond in a porcelain inlay, I would burnish platinum foil on the base of the diamond as well as to the form of the cavity before baking the inlay. The platinum would prevent the porcelain from flowing into and distorting the mold of the diamond. I should think, however, if you are going to render this type of service, which is, to say the least, certainly not good dentistry, and must be prompted by the thought of securing a good fat fee for a very questionable service rendered, that you might as well just set the diamonds in silicate cement with which the immediate appearance would be just as good as with the porcelain inlay, and it would probably last as long as your fool patient would continue to think that he wants diamonds in his teeth.

In this connection, I am tempted to tell you of an incident that occurred in my father's practice in the pioneer gold rush days in Denver some forty or fifty years ago. An Irish woman came to him saying, "Doctor, I want a gold filling in this front tooth." He examined the tooth and replied, "Why madam, that tooth is perfectly sound and does not need a filling." She said, "I know, but Pat has struck it rich in the mines and *I want a gold filling in that front tooth.*" My father refused to make it but she insisted that she was going to have a gold filling in that tooth and she wanted him to do the work, for she had heard that he was the best dentist in town, and how much would he charge for it? He was thoroughly out of patience with her by this time and said, "I would not put a gold filling in that tooth for $100." To which she replied, "All right, you can go ahead, the price is all right, just so I get a good gold filling." At this my father was so angry that he said he could not look at her or trust himself to speak to her again, so he simply turned on his heel, went into his laboratory,

closed the door and stayed there for a good long time. When he came out, to his relief she had gone and he never saw her again.

I do not mean to be preaching, Doctor; we each can but follow our own conscience in these matters, but I think you can see that by my bringing-up I am not in sympathy with setting diamonds in teeth.—V. C. SMEDLEY.

Editor Practical Hints:

I would very much appreciate a diagnosis and the probable indicated treatment of the following case:

Patient, male, 58 years old. In fair normal general health. Says he had left third molar removed some twenty years ago. The inside of left cheek, the palatine surface of the mouth extending to the right side and the back part of the tongue are covered with an opaque, whitish membrane deeply scarred or furred, resembling a cooked beef's tongue. There is no continuous pain—pain only at short intervals.

Your assistance will be appreciated.

W. A. G.

ANSWER.—Your patient undoubtedly has a case of leucoplakia. This usually occurs in the mouth of smokers, but may be from a predisposition or from any slow or chronic or long continued irritation.

In my opinion there is no connection between this condition now and the extraction of the third molar twenty years ago, although the leucoplakia might have started to develop that long or longer ago. It is not a condition that lends itself favorably to any form of treatment and might continue a harmless condition throughout the life of the patient, although it is one of the predisposing causes or forerunners of cancer. It is therefore wise, in the case of a smoker, for the patient to discontinue the habit, and in any case to have the rough or ragged edges of teeth and fillings carefully removed.—V. C. SMEDLEY.

Editor Practical Hints:

Would like to know the formula for a desensitizing paste or liquid to apply to the occlusal surfaces of the molar teeth of a lady patient about 45 years old. She has worn the enamel off considerably, so that fruit juices and seeds usually hurt. Otherwise her teeth are in good condition. An early reply will be greatly appreciated.

DRS. A. AND B.

ANSWER.—Make a saturate solution of silver nitrate crystals, with which moisten slightly a small piece of blotting paper to cover the sensitive, abraided occlusal surface areas. Protect the cheek and tongue thoroughly with cotton rolls, and have the patient close and hold a firm,

steady pressure for from ten to twenty minutes, with the silver nitrate solution on the blotting paper between the teeth over these sensitive areas.—V. C. SMEDLEY.

Editor Practical Hints:

I have a case for bleaching. It is a central incisor that has become dark after root treatment.

Will you kindly tell me the latest and best method for bleaching.

H. D. O.

ANSWER.—The best thing that I know of for bleaching organic or nonmetallic stain, which I judge is the case with your patient, is to ream out the canal very carefully, cutting away also part of the body of the discolored dentine, being sure that at least the apical third of the root is thoroughly sealed. Fill the pulp chamber and the orifice of the canal with loose, dry cotton and seal in thoroughly with hot guttapercha, after which drill a small hole into the center of the guttapercha stopping, being careful to keep away from the cavity margins. Now with long-pointed pliers carry sufficient pyrozone through the opening in the guttapercha stopping to moisten the cotton within. After which seal the stopping with a real hot spatula. This pyrozone or 25 per cent solution of dioxogen is, when properly contained and sealed, a most efficient bleaching agency.—V. C. SMEDLEY.

Editor Practical Hints:

I am looking for information which, I believe, you can give me and for which I shall be much obliged.

1. What treatment would you place in tooth after extirpation of pulp by Procain, using Block Anesthesia, to prevent a "lame tooth" that I sometimes get, and hear of others having the same trouble?

2. Do you use Arsenic at all for devitalizing, and if so what make?

3. Is there any known remedy for Erosion?

4. In a case where nearly all the teeth at gum line are turning white and chalky what can be done to arrest this? Some general treatment I presume is indicated.

C. C. C.

ANSWER.—1. The best thing that I know of for this purpose is the sedative cement formula that was published in the April DENTAL DIGEST in answer to a question from Doctor Barber. As a matter of fact though, I feel that the extirpation of pulps should be very rarely, if ever, resorted to in an up-to-date dental practice.

2. We never use Arsenic in our office and we are thoroughly convinced that its use is never indicated or justifiable in a dental practice.

3. So called erosion frequently stops with the correction of the patient's tooth brush habit.

4. If you can successfully and effectively change this patient's dietary, I believe this condition can be largely corrected. Such a patient should avoid practically all sweets, white flour foods, and all foods heavy in carbohydrate or starchy content. They should eat foods rich in vitamines and mineral salts such as leafy vegetables, fruits, milk and whole wheat bread. Where your case of erosion is more a chemical than a mechanical process it is also likely to be benefited by this correction in diet.—V. C. SMEDLEY.

Editor Practical Hints:

Here is a case with which I am unable to cope—history as follows:

Widow, age 54, in good health. Teeth extracted a year ago and temporary dentures made. First two weeks no trouble; then patient started gagging and vomiting at every meal, and between meals, unless she kept gum in her mouth. Aluminum plate made with no relief. Her physician thinks it is from previous nervous shocks, as her brother and husband were both killed on the railroad, and even before extraction of teeth she would gag when anything dry like cotton or pin touched her tongue. Have followed different suggestions with this case, but without results.

Would be glad if you could help me out in some way.

G. J. D.

ANSWER.—This is, undoubtedly, largely a mental state. I assume that you are certain of a close adaptation across the distal periphery of your plate which does not permit of flexion of the soft palate with an opening and closing contact of the palate with the plate to result in a tickling and consequent gagging sensation.

My partner, Doctor A. C. Withers, tells me that he has seen the worst imaginable cases of gagging completely cured of this reaction by a continuous repetition of tickling the palate with a feather. Have the patient provide herself with a large, clean feather and stick it into her throat, deliberately causing the gagging sensation at regular intervals, say four or five times a day, over a period of two or three weeks and (he assures me) that this abnormal tendency to gag will entirely pass away.

If you can get your patient to try this, Doctor, I will appreciate it very much if you will report results back to me.—V. C. SMEDLEY.

Editor Practical Hints:

What do you think is the best way for a recent graduate to spend his leisure time during office hours after he is located?

G. S. M.

ANSWER.—In reply to your favor would say that in my opinion a recent graduate should have no "leisure time during office hours, i. e., no time that is not occupied quite intensively by the subject of dentistry; if not actually operating for patients, then in working to perfect his technical skill in the laboratory and to glean what he may from the further study of text books and dental periodicals.

A recent graduate makes a mistake, I think, in setting a standard of fees so high as to drive patients from his office. He might better be perfecting his skill by operating for those who need his services, even though they cannot afford to pay more than the actual cost of the material used. He can labor just as conscientiously, improving his skill just as assuredly by working for this class of patients for no profit other than the increased skill that he acquires by this experience. He should get good fees when possible, of course, but, in any case, he should keep busy.—V. C. SMEDLEY.

CORRESPONDENCE

Brooklyn, N. Y.

Editor DENTAL DIGEST:

Some time ago Mr. H. came up to my office complaining of a toothache which he claimed not only was keeping him up nights but was driving him mad. Yet he could not tell which tooth it was that was causing the trouble and from mere observation one could certainly not suspect anything wrong with this tooth. However, upon getting an x-ray and going over each tooth by instrumentation, this upper left

lateral was the only tooth that responded and the patient saw "stars" when it was tapped just lightly. I advised extraction for immediate relief and the patient objected at first to losing a perfectly sound tooth. But with a little reasoning he soon decided to have them all out, if necessary, rather than go on suffering. As you can readily see from the condition of this lateral, it was not necessary to extract any others. This unusual perforation with resultant exposure appears exactly as when the tooth was extracted.

OSCAR I. OSTROW.

Chicago, Illinois

Editor DENTAL DIGEST:

In the July issue of THE DENTAL DIGEST I noticed the question: "Are there any left-handed dentists?" To this I should like to reply that I am a left-handed operator. My engine is placed on the right-hand side, yet I handle any instrument with both hands equally well. When there is any cutting to be done, instead of changing position I transfer the instrument from one hand to the other, remaining in the same position and doing the necessary work.

As a student at Northwestern (1919-1923), I was ambidextrous. Of course, this is possible for left-handed people only; a left-handed

man can easily learn to write and do any work with the right hand, but a right-handed man can seldom do anything with his left hand.

H. G. Skehar.

Norwich, Conn.

Editor Dental Digest:

Not to be outdone by my brothers in arms—another lefty speaks. Yes, I am a southpaw and proud of it!

I write with my right hand, but do most of my work with the left.

Have just rearranged my office to facilitate matters, and now find that I can work on the left side of the chair without getting my nice, clean, white coat into the cuspidor.

For the information of those who do not know, we blessed lefters have at last been recognized by the manufacturers of equipment and they are now making left-handed units.

I have installed one of these on the right side of the chair and find that it works out very nicely. My patients enter the chair from the left and I work on the left side. When I wish to work on the right side I can very easily turn my chair around a bit to the left, which gives me sufficient space to work in between the chair and cuspidor.

My cabinet is on the left, so I can reach out for my instruments very easily.

So far, I have encountered very little difficulty in extraction or other operations, and only once or twice have patients remarked on my working left-handed, though many, after finding out about it, have said that they do not care with which hand the work is done so long as it is *well* done.

S. M. Goldberg.

AND THAT'S THAT!

Brooklyn, N. Y.

Dear Teacher:

Frederick came home from school this afternoon and told me that he was told by you two clean his teeth.

There is no use of me cleaning his teeth at present for they are his very first teeth, when he looses his teeth which he is now doing and receives his second teeth then we will see that he keeps them clean and not before then.

From his Father
John Smith

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions and communications should be addressed to Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42nd Street, New York City.

In answer to the question signed "North Dakota Assistant" appearing in the October number of the Questionnaire, I should like to make a suggestion for the care of the nickel on a sterilizer. The one in our office has been in use constantly for over two years, but most people think it is new.

Use household ammonia full strength, carefully going over every part with a soft cloth well saturated with it, then polish very thoroughly with a soft dry cloth. This shines the nickel and leaves no polish to smudge it.

I find ammonia very useful around the office for the cleaning of all metal, especially nickel. It cleans glass doors and mirrors, using full strength, then polishing. This does away with messy polishes. I use it on all instruments that have not lost their shiny finish, always polishing with a soft cloth after rinsing in cold water. They can then be sterilized in the usual manner. Ammonia will remove the cloudy stain on mouth mirrors also.

Another suggestion that I gleaned from an old "Doctor's Book": When sterilizing, add bicarbonate of soda to water, especially if it is hard water, then bring to a boil before putting instruments therein. This will preserve the luster of new instruments. Old ones that have become tarnished should be polished with No. 00 sandpaper.

I should be glad to correspond with other dental assistants. We might aid each other.

NEBRASKA.

If "Nebraska" will send her name and address to Elsie Pierce, she will be pleased to place before other dental assistants her request for an interchange of correspondence.

I have been an assistant for about six months with a dentist who has a very high-class practice, and I find out each day how little I know and how little opportunity I have to learn the fundamentals necessary to serve as a competent dental assistant. I do not mean that I do not understand performing the minor duties in the office, such as cleaning the instruments, answering the telephone, making appointments, keeping the office tidy, etc., but I realize that I do not have the knowledge necessary to understand questions by patients and the doctor's explanations, as well as to be able to reply intelligently to questions that are frequently asked me relative to what is being done.

The doctor is too busy to instruct me and I cannot find any books relating to the subject. Is there any school where a girl can be properly educated as a dental assistant, where she may receive instruction in all the things that she should know? I shall be glad to hear from you giving me this information.

E. C., Newark, N. J.

Your letter is interesting and pertinent inasmuch as at the present time there is a strongly manifested desire on the part of dental assistants all over this country for greater education in their calling such as will intelligently enable them to perform their service to the dental profession and the patients.

The day of the uneducated, untrained assistant is rapidly passing. The progressive, earnest members of the dental profession, desiring to bring to their dental service every effort for the welfare of their patients, agree that they cannot conduct their dental practice without the assistance of an educated woman, and are supporting the efforts of the dental assistants at large to raise the standard of their calling.

There are several dental colleges in the Middle West and South, namely, in the States of Illinois, Minnesota and Tennessee, giving training in dental assisting, but this training is supplementary to a course for dental hygienists. At the present time I know of only one dental college giving a course exclusively for dental assistants, and that is located in Toronto, Canada. This latter course is very comprehensive and well planned, and I believe has been in existence for the past five years. There is no dental college in New Jersey and no school giving such a course as you inquire about.

There is no doubt in the minds of those who have made a study of the dental office from an efficiency standpoint that the dental assistants should be as carefully trained as the medical nurse, plus. Not only should she have a sufficient grounding in the higher scientific knowledge of the things pertaining to the field of operations, medicaments used, the teeth, their care, etc., etc., so that she may be able to understand what the doctor is doing and why, as well as to be able to

answer inquiries of patients, but she should also have careful training in the practical application of the detail duties incidental to the carrying out of the doctor's operative procedure. Besides this, the dental assistant should be trained in the economic side of the dental practice and be sufficiently competent to keep accurate books and records, take charge of the correspondence, banking, etc., this latter being quite necessary in addition to the scientific and practical training as related to the service in operative procedure. This is the *plus* that is not a part of the training of the medical nurse. The competent medical man requires a capable, trained nurse to assist him. Why should the dentist expect to carry on a reputable dental practice without a trained dental assistant?

President's Address*

AMERICAN DENTAL ASSISTANTS ASSOCIATION

By Juliette A. Southard, New York, N. Y.

It is my duty, as president of the American Dental Assistants Association, to present to you at this first general meeting of the annual session a message containing such observations and recommendations as I believe will bring a constructive influence to bear upon the future development and success of the Association.

We will briefly review the origin of the associations known as dental assistants' societies, and more particularly that known as the American Dental Assistants Association.

To the West belong the honor and credit of bringing into existence as an organization the first group of young women who were fulfilling their mission in life as assistants in dental offices. Approximately eight years ago the first dental assistants' society of which we have a record at the present time was formed in Nebraska. Since then, independently, and, as far as I have been able to learn, in many instances with absolutely no knowledge that any other such organization existed, societies have been organized by groups of young women dental assistants throughout the country until now approximately twenty-eight of these societies are in existence and functioning, with more or less success. Some of these are State Associations, while others are purely local.

Two years ago this month, at Cleveland, Ohio, during the meeting of the American Dental Association, a small group of dental assistants, all of whom had served as ranking officers in their respective societies,

* Delivered at Louisville, Kentucky, September 22, 1925.

met together to consider the advisability of organizing a national association. It had long been felt by those who had had the direction of activities in their societies that there should be a central organization or parent body that would help to co-relate the efforts of the dental assistants at large and assist them in their endeavors to maintain their ideals for the raising of the standard of service to the profession of dentistry.

Growing out of this conference at Cleveland in September, 1923, an Organization Committee was formed, which was to outline a plan and draft a constitution and by-laws and care for such other details as are incident to the organizing of a national association, this committee to convene again at Dallas, Texas, in November, 1924, at the same time as the meeting of the American Dental Association. At the series of meetings which were held at Dallas, to which all dental assistants' societies had been invited and urged to send a delegate, there assembled an enthusiastic group representing eleven societies. Incidentally it may be of interest to know that the following States were represented: Alabama, Illinois, Indiana, Iowa, Maryland, Massachusetts, Nebraska, New Jersey, New York, Ohio.

The plan of organization as presented had received the hearty approval of a number of the most prominent members of the dental profession, and at our meetings we had the privilege of hearing words of praise and commendation from a number of the officers and members of the American Dental Association, one of our advisors and staunch supporters being no less than the president of the American Dental Association, Dr. C. N. Johnson, president-elect at that time, to whom a copy of the constitutional and administrative by-laws had been submitted, and they were endorsed without reservation. Here I may state that the plan of organization and operation adheres closely to that of the American Dental Association.

As you who are here today well know, the American Dental Assistants Association was duly organized at Dallas, the present officers elected, and the sessions of this first annual meeting are being conducted under the provisions of the constitution as adopted at that time.

In the minds of those who created the plans and specifications for the building of the American Dental Assistants Association there was visualized a strong, beautiful temple, a veritable House of Dreams, into which should be builded the ideals, the aims and purposes, and the work of dental assistants, whose lasting foundation should firmly rest upon four sturdy cornerstones truly worthy of the best endeavors of its builders, the dental assistants of the East and the West, the North and the South.

In imagination let us stand before this temple for dental assistants, which was planned not solely for today or tomorrow but to endure into

the far distant future as well, and read the inscriptions which are engraved on those four cornerstones.

On the first, at the east corner, we see chiseled the word EDUCATION, and we know that in all ages the progress and advancement of all peoples have been the result of education. Knowledge is power, and power is the ability to carry on one's endeavors to the highest pinnacle of achievement and success. For the dental assistant to be able to fulfil the responsibilities of her calling in the most capable manner she must be educated to a thorough understanding of these responsibilities. Her mental processes must be developed, there must be a bigger vision in her mind than the counting of the hours and the minutes until her day's work is done or thinking of nothing more than the pay check that is forthcoming at the end of the week. To be an assistant to one who is dispensing service for the relief of suffering humanity, such as the dentist, requires intelligent understanding; one must be more than an automaton. To build an indifferent calling into a dignified, respected profession necessitates a bigness of vision and a broadness of spirit that can be acquired by no other means than through education. This cornerstone cries aloud to all dental assistants to seize every opportunity to improve their education. It may mean much added effort, but things worth while are never gained without something being given in return. Can there be a more splendid purpose than a striving for greater education.

At the north corner of our temple the builders have caused to be inscribed upon the foundation stone the word EFFICIENCY. To be efficient is to be competent. It is the ability to do all things effectually. What attribute can be more necessary for the dental assistant to possess in the carrying out of the daily routine in the conduct of a dental office? The capable dental assistant is ready for any emergency no matter what it may be. She possesses mental alertness and tact. She is constructive; she is a good executive; she is willing; she is cheerful; she is sympathetic for suffering humanity whether their suffering be mental or physical. Summing it all up briefly, she is efficiency personified.

On the west cornerstone of our temple we see emblazoned the word LOYALTY, that quality of allegiance that should permeate the heart and mind of all true dental assistants, loyalty to one's ideals, to one's co-members, to one's employer, to one's self; the allegiance that will cultivate steadfastness of purpose and determination always to stand by the object of our Association and its Code of Ethics, no matter whether we always intend to remain dental assistants or not; the allegiance that prompts us to cooperate with our co-members in an effort to advance the standing of dental assistants and create a dignified profession from what has been heretofore but a very indifferent calling,

regarded as such by the general public and in too many instances by the dental profession; the allegiance to one's particular office, a recognition that one's employer's affairs are not subjects for gossip, that his interests are interests to be guarded and cared for preciously; the allegiance to one's self, to one's principles of honesty, morality and fair play.

On the south cornerstone has been graven the word SERVICE, that one sublime achievement of humankind that makes the world a brighter and a better place. I am speaking of service in its broadest sense, not as the mere performance of daily tasks for the compensation which accrues, but the service which comes from a true understanding of the needs of others. I do not know of a better place to dispense this precious commodity than a dental office, and I do not know of any individual better fitted to serve intelligently, capably and loyally than a dental assistant.

These, then, are the cornerstones set in the foundation of our House of Dreams. As the building progresses toward completion, I urge those who are to follow and have a share in its making to place in its walls only such stones as will endure. Their inscriptions should embody the synonyms of greater purposes, better aims, notable achievements. The future lies ahead, filled with the greatest of possibilities; they can all be realized into actualities if your vision be always true and your ideals remain unchanged.

I offer the following recommendations for the furtherance of the plan of the American Dental Assistants Association:

1. A strict adherence to the policy of greater education for dental assistants. Until such time as the dental schools throughout the country recognize the great need for special training for dental assistants, the societies must carry on this work to the best of their ability. I urge a very definite program of instruction as a part of the activities of every society for dental assistants, through the medium of special classes of instruction in every phase of dental assisting, such as will enable a dental assistant to fulfil any task assigned to her or which may become a part of her duties. These classes should comprise instruction in secretarial duties, chair assistance, first aid, sterilization, care of instruments and equipment, x-ray developing and mounting, filing, laboratory technic in all its phases, proper reception of patients and telephone courtesy, and any other study that may be of value. I cannot stress the necessity for these classes too strongly, and I urge those present as delegates and officers of our constituent societies to use every endeavor in their organizations to establish a definite plan along this line for the coming season and those to follow. Some dental assistants may think that they have no need for these classes—they are probably the very ones who need them most. Personally I know that,

notwithstanding years of experience, there is much to be gained in these study classes.

2. Each meeting of a society should have a constructive program following the business session. An essay or lecture by a member of the dental profession on a topic of educational value to the dental assistant and an address, preferably by a woman speaker, on an educational topic pertaining to other fields of endeavor have been found very interesting and instructive where they have been so given. Members should be encouraged to give papers and talks on some subject which they have found of value; these can be technical or purely inspirational.

3. I urge upon every society the necessity of properly conducted meetings. This applies to committee meetings as well as to all others. In order that this may be accomplished, I recommend that a class in Parliamentary Procedure be organized in every society and the members instructed by a competent parliamentarian. It may be of interest to you to know that in almost every instance of societies failing to function the principal reason has been improper conduct of meetings and the consequent unfair treatment of members. The only assurance that members of any organization have that they are being accorded every privilege and are being treated fairly and equally is the knowledge that the officers are strict adherents of parliamentary procedure, in which the members themselves should be well informed. Parliamentary conduct of meetings lends a dignity that nothing else can equal; it also assures expediency and accuracy.

4. I recommend the forming of a clinic club in every society. This clinic group should plan and organize visual demonstrations of the work of the dental assistant. Each dental assistant has some particular method for the accomplishment of some special service. Very often that which seems of minor importance to one proves of tremendous value to another. Through the clinic club a method of exchange is established. New ideas are developed and, while everything shown is not applicable to every dental practice, knowledge gained is always an asset. The members of the dental profession are constantly giving clinics covering every phase of the practice of dentistry, which help the dentist to keep abreast of the times and progress. The dental assistant should do the same. It becomes a part of that program of greater education in which we are so vitally interested and for which we are striving so earnestly.

5. There should be a well-ordered plan of membership in every society. In those states where there is a state organization, the state should be divided into districts, and a committee appointed to canvass each district with the view to encouraging and assisting the dental assistants therein to organize educational societies. Where such societies are already organized, the committee should help to make them more

effective. They should be encouraged to list every dental office in their district where there is an assistant, secure the name of the person employed and use every friendly endeavor to interest her to become a member. The president and other officers of a state society should interest themselves in every way possible in the local organizations. They should visit them and give them constructive and inspirational talks. My impression has been that the societies, whether state or local, are too restricted in their influence. Each society seems to be satisfied to conduct its own affairs in its own little way; it does not seem to be particularly interested in the activities of others. If the officers cannot visit, they should correspond with the officers of the other societies. A bigger viewpoint of cooperation is needed. The membership of dental assistants' societies seems to be an ever-changing one. If we are to function with any degree of success, we must maintain our membership as an active quantity. Everything should be done to stimulate the interest of the members.

Within the past year I have been asked by officers of several organizations: "What can we do to make the members attend our meetings? We have a goodly number of members, but they seem to have so many other interests that they do not have time to come to meetings." To the officers I can say only that the meetings must be planned to be interesting and the members must be influenced to take an active part. This cannot be done unless the officers keep in constant touch with the membership. To the members I would say that when they join a society they obligate themselves to support that society, its ideals and its purposes. And I would add that a society can function only through the interest and cooperation of the members. No society can be any better than the individuals who compose its membership. It does not suffice to organize; it is imperative to keep the organization alive. This means work, perseverance and self-sacrifice. The reward comes in the satisfaction that one is doing one's best for the greater happiness of one's fellow human beings.

6. Every society should have a medium through which its members can keep informed of its activities and receive as much other information as can be secured relative to the activities of other societies. I urge the issuing of a bulletin once a month by every dental assistants' society, this publication to be the official mouthpiece of the organization. It should contain the program of the regular meeting, announcements of committee meetings, applications for membership, information regarding the clinics, lists of officers and committees, and any other items of interest. Where the membership is small, this bulletin could be typed or mimeographed. Where the membership is sufficiently large, it should be a printed form. Copies of this bulletin should be mailed to other dental assistants' societies, thus stimulating a general interest.

Besides this official publication, news items of the activities of the society should be sent to the dental journals; the cooperation of the editor can be secured if properly sought. A Press or Publicity Committee can attend to this under the supervision of the president, who should see to it that these notices are carefully written for publication.

I should like to see an American Dental Assistants Association bulletin. If at first it was not feasible to issue it each month, a quarterly publication would be a splendid accomplishment. This bulletin should be under the general supervision of the Board of Trustees and the direct supervision of the president and secretary. The presidents of each constituent society should be enrolled as associate or contributing editors. The only obstacle I can see to the fulfilment of this very necessary adjunct to our Association at the present time is the lack of finances, but this could be overcome if we all helped to secure the necessary funds.

7. I urge a strict adherence to our Code of Ethics as incorporated in our constitutional by-laws, particularly the second paragraph, which I desire to bring to your attention: "The dental assistant should be morally, mentally and physically clean; she should be honest in her dealings with her associates; she should be loyal to her employer and the profession which she serves, as comports with the dignity of a cultured professional woman." We will consider the thought: "She should be loyal to her employer and the profession which she serves." In this relation, discussion of fees and salaries should be strictly prohibited in every dental assistants' society. It is an act of flagrant disloyalty to speak of the fees charged by the dentist with whom one may be associated. These are strictly personal and should be kept in confidence. All other business and personal matters transpiring in the office should likewise never be spoken of or discussed. The salaries received or paid are private, personal matters between the dentist and his assistants and should never be discussed publicly. Much harm may come to your associations if a strict adherence to this policy is not maintained, for the dentist would have every reason to be very angry if such discussions were permitted.

The closing sentence in our Code of Ethics, which speaks of the dignity of a professional woman, is very pertinent. It behooves every dental assistant always to maintain a dignity worthy of herself and her calling, both in the office and in any public gathering which she is attending in the capacity of dental assistant. A quiet, dignified reserve is the badge of good breeding and is always respected.

8. I plead for a continuance of interest in the affairs of our Association. Let us pledge ourselves to support and cooperate with our officers in their endeavors to conduct its activities for the happiness and satisfaction of all. Every dental assistants' organization in the

country should become affiliated with the American Dental Assistants Association, and I am sure that they will affiliate if the societies who are the component parts at the present time will but take sufficient interest and urge them to do so, pointing out the advantages of fellowship and greater knowledge. A list of the societies may be obtained from the General Secretary.

The things that are learned as a dental assistant are valuable lessons in experience. The contact with human nature in all its moods and conditions, the ability to help relieve suffering, the accomplishment of service well performed, the exercise of tact, patience, perseverance, all build for a future home life made better and happier because of these developed qualities. A good dental assistant is bound to be a good wife and mother.

In closing, I wish to express our sincere appreciation to all those who have and are contributing to the success of the American Dental Assistants Association and its allied societies, as well as to our meeting. Especially are we grateful to the Local Arrangements Committee of Louisville for the many kindnesses shown us.

To the dental journals and their editors we wish to express appreciation for their courtesy and cooperation in giving publicity to our notices and accounts of meetings.

We feel deeply indebted to the members of the American Dental Association for the aid they have given us in making it possible for us to hold our meetings in Louisville. We pledge ourselves not to abuse their confidence and will do all in our power to prove a help and not a hindrance. We earnestly ask for the continuance of the interest and cooperation of the dental profession in our efforts to make better dental assistants of ourselves.

In the building of our House of Dreams we owe a deep debt of gratitude to the members of the dental profession who have helped us with their advice and moral support. I know I speak for all our members when I say that we are truly grateful to them. We are really trying to do a constructive work for the uplift of the dental office and the raising of the standards of service to the profession of dentistry in the effort to relieve suffering humanity.

With our watchwords ever before us—EDUCATION, EFFICIENCY, LOYALTY, SERVICE—as ideals enshrined in our hearts, let us cleave to our purpose and always do our best so that on the pages of history there can well be inscribed, "They have builded well and the glory of achievement is theirs."

174 West 96th Street.

October Meeting

OF THE

EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS, FIRST DISTRICT, NEW YORK, INC.

The first regular meeting of the 1925-1926 season of the Educational and Efficiency Society for Dental Assistants, New York, held at the Academy of Medicine, 17 West 43rd Street, New York City, on October 13th, was well attended. Juliette A. Southard, president, called the meeting to order and then, following a precedent established last year, turned the gavel over to one of the members who acted as chairman of the evening. Mae L. Bennett, Chairman of the Executive Committee, filled the position at this meeting, acquitting herself most creditably.

Dr. Charles Vetter, President of the First District Dental Society, New York, was the essayist of the evening. In a brief but delightful talk he reminded the members of the Society that it is what is put into an endeavor that really counts, and that they will share in the advantages to be derived from their organization only in proportion to the amount of effort and thought that they each give to it. Agnes F. MacNeill and Emily Campbell, delegates from the Society to the first annual meeting of the American Dental Assistants Association at Louisville, Ky., in September, 1925, presented reports of the work accomplished there. Of great interest and importance was the adoption by the House of Delegates of a resolution that a course in the training of the dental assistant be introduced into the recognized dental schools of the country. This can be seen as a big advance for the profession of dentistry as well as for dental assistants, as the registered dental assistant not only will open up a new field of professional endeavor for young women but will bring added dignity to the dental office and assure competent, trained assistance for the dentist.

Anna H. Sykora, General Secretary of the American Dental Assistants Association and Treasurer of the Educational and Efficiency Society for Dental Assistants, New York, told of her impressions of the National Convention, mentioning particularly the earnestness, sincerity and enthusiasm of the women attending. The second annual meeting of the American Dental Assistants Association will be held in August, 1926, at Philadelphia, Pa.

Emily Campbell, Director of Classes, announced the plans of the classes to be conducted as usual by the Society. They include Secretarial Duties, X-ray Assistance, Care of Equipment, Sterilization, Chair Assistance, Speaking and Parliamentary Procedure, General Laboratory

Assistance, First Aid, and Practical Psychology. To these will be added any study pertaining to dental assisting that may be requested and for which a large enough class can be organized. This instruction has proved of great value in the past to those who have embraced the opportunity that it has offered, and it is the purpose of the Society to enlarge the scope of this educational program in every way possible. The classes are for members and are free of charge. A class in First Aid is now being formed, and others will be organized shortly.

Agnes F. MacNeill, Acting Director of the Clinic Club, reported that the Clinic Club has resumed its meetings on the third Monday evening of each month at 7:30 o'clock. At the regular meeting in October the Orthodontic and Sterilization Sections demonstrated and the evening proved to be a profitable and enjoyable one for the large audience of members present. Several invitations to appear before local dental societies have been received by the Club, starting the program for another year, which the members intend shall eclipse the last year in achievement and service. Members of the Society are eligible to join and are urged to do so. The December meeting will be held on Monday, December 21, 1925, at the office of Dr. W. Short, 342 Madison Avenue, New York City, unless otherwise announced.

Juliette A. Southard and Sylvia Danenbaum were elected delegates to the Sixty-eighth Convention of the New York Federation of Women's Clubs, in session at the Hotel Astor, New York City, on October 23, 1925. The Misses O'Connor and Silver were chosen as alternates.

Upon resuming the chair, the president delivered a message from an Honorary Member of the Society, Dr. C. N. Johnson of Chicago, in which he urged his fellow-members to "keep up the good work" and reassured them of his continued support and cooperation. Another Honorary Member, Dr. Henry Fowler, who was present at the meeting, spoke a few words, stressing the need for college training of the dental assistant and bringing, as he always does, fresh incentive and enthusiasm to the members.

The Society meets on the second Tuesday evening of each month, October to May, inclusive, at the Academy of Medicine, New York City, at 8 p. m. At the December meeting Dr. L. M. Waugh will speak on *Ethics* and there will also be a speaker on *Investments*. A cordial welcome is extended to the members of the dental profession. Dental assistants are also invited to attend and are urged to join. Further details may be had from Kathleen Scanlon, 342 Madison Avenue, New York City.

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

All prayers are answered. Usually the all-wise answer is "No."

There is safety in numbers. The two-dollar bill isn't unlucky in thousand lots.

Orientals don't believe in kissing—and look at the darned things!

"It might be worse," said Adam: "There are no neighbors to see us being put out."

(Mrs. Wilkins)—Oh, Harry, I'm just in love with that hat in the window!

(Husband)—Nonsense, dear. Love is an affair of the heart, not of the head.

One Sunday two lovers went to church. When the collection was being taken up the young man explored his pockets and finding nothing, whispered to his sweetheart: "I haven't a cent; I changed my pants."

Meanwhile the girl had been searching in her bag and finding nothing, she blushed and said: "I am in the same predicament."

Progress consists of swapping old troubles for new.

(Motor Cop—after hard chase)—Why the gee whiz didn't you stop when I shouted back there?

(Driver—with only five dollars, but presence of mind)—I thought you just said, "Good morning, Senator."

(Cop)—Well, you see, Senator, I wanted to warn you about driving fast through the next township.

To get just the right tint on the cheeks buy only the best rouge, hide it in a safe place about two miles from home and walk out and back once a day to see if it is still there.

A city and a chorus girl
Are much alike, 'tis true;
A city's built with outskirts,
A chorus girl is, too.

(Mike)—'Tis a fine kid you have there. A magnificent head and noble features. Say, Pat, could you lend me a couple of dollars?

(Pat)—I could not. 'Tis my wife's child by her first husband.

(Little Lucy)—Say, Pop, is it right to say "I'll water the horse," when he is thirsty?

(Pop)—Certainly, my dear.

(Lucy—picking up a saucer)—Well, I'm going to milk the cat.

In the correct posture, described by a Chicago doctor as an aid to health, a man would seem to be expected to stand with chest and head held just about as they would be in case he ever won an argument with his wife.

SOFTEST JOBS IN THE WORLD

Horse doctor in Detroit.

Humor editor of Congressional Record.

Lineman for a radio company.

Chimney sweep on a fireless cooker.

Fly swatter at the North Pole.

Conductor on train returning from Florida.

(He)—I came back from the golf links last night chilled to the bone.

(She)—What! Didn't you wear a hat?

(Dentist)—Yes, it will have to come out.

(Patient)—And what is the charge for extraction?

(Dentist)—It'll cost $5.

(Patient)—How much will it cost to loosen it just a little bit?

The only thing women's clothes now leave to the imagination is—what makes them so expensive.

Increase of autos suggests the propriety of changing our national flower from golden-rod to car-nation.

"Johnny!" shouted his father. "I am disgusted at the way you shovel your food into your face! One would think you had never been given any instruction as to table manners? Straighten up! Put your left hand in your lap and leave it there! Get rid of that knife! Keep your lips shut while you chew! Why, boy, you're a regular pig—you know what a pig is, don't you?"

"Yep," said Johnny, as he swallowed whole a bite he should have Fletcherized. "A pig is a hog's little boy."

DIETETICS and HEALTH

Are Calories Old Fashioned?

In his presidential address delivered before the American Neurological Association in Washington, Peterson recalled the saying of Hippocrates that there are ills, no less dreadful than those of repletion, arising from deficiency of diet. Twentieth century medicine has had its attention attracted to such deficiency disorders in striking ways. It is being admonished that, "in a land literally flowing with milk and honey, several million children in the public schools suffer from malnutrition." Peterson advanced the thesis that neurasthenia, a common ailment having a professionally unpopular designation, has failed to receive the critical consideration which its widespread occurrence dictates, and that it deserves to be studied from the standpoint of nutrition and fatigue. As if to point a promising direction for the desired research, the neurologist remarks: "We are just beginning to realize that the calories have gone out and the vitamins have come in." One who has read these columns of The Journal in recent years must admit that the newly recognized food factors have found consideration and that the promise which they hold for the advancement of practical therapy has not been overlooked. Mendel has well remarked, however, that we are living in a period of hectic anticipation of novelties, when much is expected of science; and the momentary enthusiasm for the new is apt to bring about indifference to the old. The fact is that the appreciation of the calory idea in nutrition has not gone out but, on the contrary, has become a permanent part of everyday science. Lest we forget, it may be worth while to recall what an adequate appreciation of the energy factor means for present-day medicine. Basal metabolism and its variations in disease are measured in terms of calories. The formerly unappreciated large food fuel needs of the growing child are dealt with in the same terms. As Mendel has expressed it, the better appreciation of the nutritive needs of those destined to become the rank and file of our nation when they are grown up—an appreciation based alike on experimental studies and on statistical data as to food habits—is not the least of the contributions which the science of nutrition has made to public welfare during the last decade. The food dictators of the future will no longer be excused if they estimate the food needs of

peoples in the once conventional terms of "man values" wherein the requirements of the child population were calculated as a fraction of the adult needs proportional to the smaller weight and stature of the young. The high-calory diets in fevers have revolutionized the management of the typhoid patient in determinable ways. The reduction of obesity has become an experiment in rational low-calory feeding.—*Journal A.M.A.*

Carbohydrate Conservation in the Brain

Many years ago Huxley remarked that, in ultimate analysis, life has three legs to stand on: the heart, the lungs and the brain. In the active metabolism of the body, the lungs are concerned directly only in minor degree. Their indispensable rôle in respiration involves the functioning of a highly perfected diffusion membrane. The heart, on the other hand, is the seat of constant chemical reactions responsible for its contractile activity. What is involved thereby (says the *Journal A. M. A.*) is indicated by a recent calculation that the maximal power of the heart is about equal to the amount of work involved in lifting the weight of the body one meter per minute. Cerebral metabolism is not so conspicuous; in fact, it is only in very recent times that unmistakable quantitative evidence of chemical changes in the nervous tissue incident to activity have been accurately recorded. It has long been known that the heart is among the last of the organs to suffer depletion of its "reserves" when the body is under stress. In starvation, the cardiac muscle only slowly shows any noteworthy change in composition. The storage of carbohydrate long remains unimpaired. It is of obvious advantage that those organs which are most essential should be able to maintain their functions as long as possible when unfavorable conditions of nutrition develop. Like the heart, the brain also seems to conserve its carbohydrate reserve with great tenacity, according to experiments by Asher and Takahashi at the University of Berne, Switzerland. Only under conditions that favor a state of exaggerated excitability of the central nervous system are the stored carbohydrates of the brain drawn on.

FUTURE EVENTS

The Eighteenth Annual Convention of the ALPHA OMEGA (DENTAL) FRATERNITY will be held at the Prince George Hotel, Toronto, Ontario, on December 28, 29, 30, 1925.

For further details communicate with the Supreme Scribe, Dr. S. H. Bowman, 2435 North 17th Street, Philadelphia, Pa.

The next meeting of the SOUTH DAKOTA BOARD OF DENTAL EXAMINERS will be held in Sioux Falls, South Dakota, beginning on Monday, Jan. 4, 1926. All applications must be in the hands of the Secretary ten days before the meeting.

G. G. KIMBALL, *Secretary,*
203 Western Natl. Bank Bldg, Mitchell, South Dakota.

The next examination of the BOARD OF DENTAL EXAMINERS OF THE DISTRICT OF COLUMBIA FOR DENTISTS AND DENTAL HYGIENISTS will be held January 4-8, 1926.

C. WILLARD CAMALIER, *Secretary-Treasurer,*
206 Medical Science Bldg., Washington, D. C.

THE NORTH DAKOTA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting in Fargo, January 12, 1926. For further information and application blanks, write the Secretary.

W. E. HOOKING, *Secretary,*
Devils Lake, N. D.

The annual meeting of the RHODE ISLAND STATE DENTAL SOCIETY will take place at the Biltmore Hotel, Providence, January 13-14, 1926.

The next meeting of the DELAWARE BOARD OF DENTAL EXAMINERS will be held in the Municipal Building, Tenth and King Sts., Wilmington, January 20-21, 1926, from 9 A. M. to 5 P. M.

For further information, address

W. S. P. COMBS, *Secretary,*
Middletown, Delaware.

The twenty-fourth annual meeting of the CENTRAL PENNSYLVANIA DENTAL SOCIETY will be held at the Fort Stanwix Hotel, Johnstown, Pa., Feb. 22, 23, 24, 1926.

G. B. WHITTEN, *President,*
548 Main Street, Johnstown, Pa.
J. L. PORIAS, *Secretary,*
Nanty-Glo, Pa.

THE DENTAL HYGIENISTS ASSOCIATION OF THE CITY OF NEW YORK holds its regular monthly meetings the first Tuesday of every month at the Academy of Medicine, 17 West 43rd Street, New York City, at 8 P. M.

Interesting programs are presented at each meeting, and all dental hygienists and members of the dental profession are cordially invited to attend.

CHICAGO DENTAL SOCIETY'S ANNUAL MEETING AND CLINIC

January 27, 28, 29, 1926—Drake Hotel

The sixty-second annual meeting and clinic of the CHICAGO DENTAL SOCIETY will be held at the Drake Hotel, Chicago, January 27, 28 and 29, 1926, Wednesday, Thursday and Friday. The plans for this meeting have been perfected and contemplate the establishment of a new mark in program-building. That the 1926 meeting will excel all previous records of this Society is witnessed by the following facts:

1. There will appear on the literary program 256 men to present papers, addresses and discussions in the ten different sections, at two noon-day luncheons, and at the two big general session meetings.

2. Two one-half days will be devoted to clinics: Thursday afternoon and Friday morning. The clinics will consist of seven types, as follows:

(a) Progressive clinics.
(b) Lecture clinics.
(c) Section clinics.
(d) Junior clinics.
(e) Table and chair clinics.
(f) Study club clinics.
(g) Senior student clinics.

There will be a total of 200 clinics, 100 to be given each half-day.

3. The President of the American Dental Association, Dr. Sheppard W. Foster, and Mrs. Foster will be the guests of honor at a banquet, which will be followed by a program of dancing and entertainment.

4. The number of commercial exhibits will excel all previous records, for more space has already been sold than for any previous meeting of this Society.

Railroad rates have been secured for this annual meeting.

A special invitation is extended to all members of the American Dental Association and to dentists living in foreign countries who are members in good standing in their national societies.

Hotel reservations should be made immediately, direct with the hotels.

We are gratified to announce to the profession that Dr. Otto U. King, General Secretary of the American Dental Association, is Chairman of the Program Committee.

M. M. PRINTZ, *President,*
HUGO G. FISHER, *Secretary,*
25 East Washington Street.

JUST AS THE LARGE LABORATORIES DO ~ YOU CAN RELY ON

"*Very Very* GOOD"

THAT'S WHAT dentists and laboratories are saying about this NEW, subdued-white gold. Although it was introduced to the profession only eight months ago,

Stern No. 447 Denture Gold

has already become a great favorite as a high-grade gold of universal application.

It is equally good for dentures, saddles, lingual and palatal bars, bridgework abutments and inlays.

You'll like its beautiful subdued-white color as much as its surpassing toughness, springiness and extreme hardness.

It contains 14% platinum metals, and is easily cast with an ordinary gas blow-pipe. The price is $2.00 per dwt.

Order a few pennyweights of this new gold. You'll be proud of the beautiful castings it will enable you to produce.

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The Most Effective Cleansing Agent Known

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Colgate's Ribbon Dental Cream cleans the teeth by the combined action of mild soap and precipitated chalk. Clinging food particles are gently loosened and washed away. The value of Colgate's as a safe and effective dentifrice is widely recognized by the dental and medical professions.

A generous supply of samples will be sent postpaid to professional friends upon request. Address COLGATE & CO., 581 Fifth Avenue, New York, Dental Department 665.

Hidden wells of poison

That is the keynote thought back of the present Listerine Tooth Paste campaign now appearing in magazines and newspapers the country over.

Thousands of dentists have written in to us commenting favorably on this new and drastic publicity.

We have also prepared an attractive folder reprint of this advertising, copies of which many dentists are using, together with samples of this dentifrice.

May we send you a supply of both folders and samples? A postal request will bring them.

LAMBERT PHARMACAL CO.

St. Louis, Mo.

Makers of Listerine and Listerine Tooth Paste

Napoleon said-

"An army travels on its stomach."

AND he might have added that it makes the road with its teeth. Some of the deepest thinkers of the world have left pithy sayings as recognition of the great importance of good digestion, and we all know the tremendous influence of thorough mastication.

Practically every case of chronic indigestion can be traced to faulty mastication, due to the fact that the individual *will* not or *can* not chew food properly, and it is usually due to the latter—an inability to masticate because of inefficient natural or artificial dentures.

Trubyte

—they smooth the way to good digestion

The efficiency of Trubyte Teeth has become proverbial wherever dentistry is practiced, and the results in health-building where Trubyte dentures have replaced the old-type conventional teeth have been remarkable.

Trubyte posteriors have occlusal surfaces so carved that, when properly articulated, they masticate food efficiently with the greatly reduced force possible for edentulous patients to exert with hard plates resting on tender gums. This result is possible through the application of engineering principles in the carving of Trubyte Teeth.

When you consider that you have in Trubyte Teeth the most beautiful typal forms that harmonize with all the modifications of square, tapering and ovoid face forms, there is every reason to select Trubyte Teeth as your choice for pleasing appearance as well as for efficient mastication.

Napoleon's Dream of Empire did not crowd out his zeal for the army's health. Let nothing turn *you* from your ideals of true denture service.

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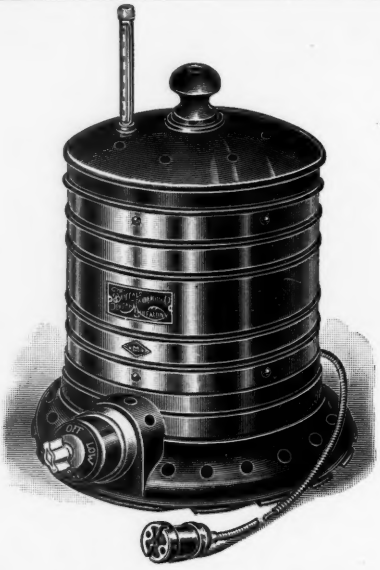
(Trubyte Teeth are known as Anatoform Teeth in Europe, Great Britain and her Colonies.)



The No. 550 Heating Oven

A Sensible Heating Oven

Sensible because it is simple and sturdy in construction, easy to handle and of sufficient size to take any inlay flask made.

The heating unit is a 1000 Watt 6½-inch hot plate, supplied for 110 and 220 volts, and can be operated on either A. C. or D. C. current. We guarantee these units for one year against burning out.

The jacket is well insulated to prevent radiation of heat, and a three-way switch is supplied which permits of operation on low, medium or high heat.

Temperatures up to 750° F. can be attained.

We also supply a thermometer, if this is desirable, and a small platform for raising the inlay flasks above the bottom of the oven, and thus avoiding direct contact with the heating element.

Booklet No. 9 illustrates our entire line of Electric Heating Ovens, and we shall be glad to forward a copy to any address.

PRICE

No. 550 Heating Oven	$40.00
Thermometer extra	7.00
Platform extra	1.75

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Buffalo, New York, U. S. A. **Lock Box 979**

And We'll Keep at it During 1926

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DENTURCAST
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DENTURE AND CLASP CASTING GOLDS

each grade of which is skillfully processed for a distinct purpose and to fulfill that purpose with distinction. Hence, prosthodontists everywhere know that "Julius Aderer's Products are Inseparably Linked with Satisfactory Results."

Permit us, at this time and place, to extend to you the Compliments of the Season and to continue to be a factor, however humble, in the greater success we wish you for 1926.

Never Yet An Inducement to Change

FROM the prosthodontist standpoint—the one whose experience has taught him to prefer

THE JULIUS ADERER

Grooved or Split Lingual Bars

—there never was, is, nor can be a readymade lingual bar that will as successfully answer his exacting purposes. In fact, the Julius Aderer's Lingual Bar is the real solution of your lingual bar troubles. To be lastingly satisfied you have but to employ them once.

These Bars Have a

bulldog grip or anchorage in the vulcanite; are contoured so that they fit the majority of cases; may be bent and re-bent as often as required to fit the unusual case; occupy minimum space in the mouth; have strength, durability, less bulkiness.

16-Solid Clasp Gold, large $2.50; Medium $2.25; Small $2.00. 1/5th Gold Cased in any of the three sizes $1.50 each.

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A combination that will accurately produce a casting either small or large

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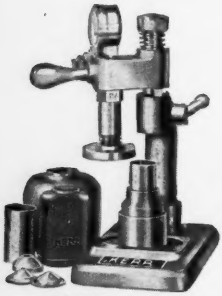

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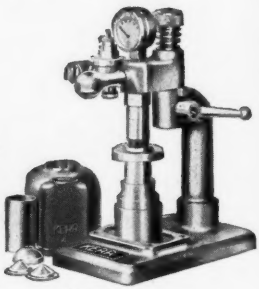
Will Handle All Your Castings Built to Serve Indefinitely

A Semi-Automatic, Compressed Air, Regulated Sustained Pressure Casting Machine, so simple and positive in action that it allows operator to give his full attention to one of the most important points in casting, the melting or handling of the metal.

NOTE—Compressed Air Tank and Pump may be had if you are without compressed air.



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Blue Stick Wax for Inlays and Pink Sheet Wax for Saddles, Dentures, etc.

BLUE INLAY CASTING WAX CHARACTERISTICS

Easily softened over flame or in water; can be built onto; does not scale; holds heat longer than ordinary waxes; color distinctive; shows the thinnest margins; easily carved.

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Sheets of uniform thickness, made in various gauges for your convenience.

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No. 1. An All-around Investment for general castings and solderings for those using the boiling-out or fast process of wax elimination.

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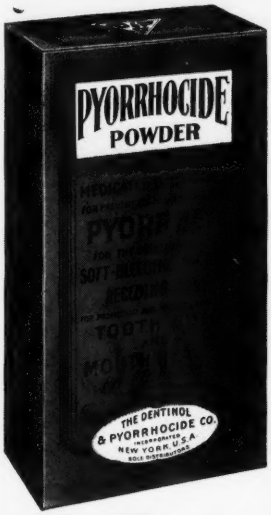

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It will reduce soreness and inflammation of diseased oral tissue.

It keeps the teeth clean—the gums hard.

Pyorrhocide Powder is medicated with Dentinol (3%)—a non-toxic, non-caustic germicidal and healing agent used in pyorrhea work at the chair.

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SAMPLES: ***Pyorrhocide Powder samples for distribution to your patients, and a trial bottle of Dentinol for use at the chair, sent free on request.***

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This instrument with its attachments permits accurate reproduction of condylar and mandibular movements in any and every case, whether full or partial restoration is required, or whether the treatment extends into the field of orthodontia or periodontia.

No other instrument provides means for scribing the basic dental curve as does the centering plate on the Wadsworth Universal Articulator.

It is not limited to normal cases, but because of its adjustability abnormal case requirements are handled with equal accuracy and efficiency.

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Those interested may have a copy on request.

Wadsworth Universal Articulator $25.00

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modern practice calls for in a tooth paste

BASED on the dominant dental opinion of today, the Pepsodent formula is based on these important factors.

Tests in collaboration with many of America's foremost authorities prove that this modern tooth paste meets those factors adequately. The fact that every day, largely on dental advice, the world turns more and more to Pepsodent confirms it.

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1 *Acid.* Sufficiently acid to produce desirable stimulation of salivary flow.

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Please send me free of charge, one regular 50c size tube of Pepsodent, with literature and formula.

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  Would like to avoid,
If each patient you'd have
  With your work overjoyed,
Throw out your old tools,
  Give your skill half a chance;
Use these instruments modern
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Now in this, our good friends, there's
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You need Crystolon Points and
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But the sure way to get them,
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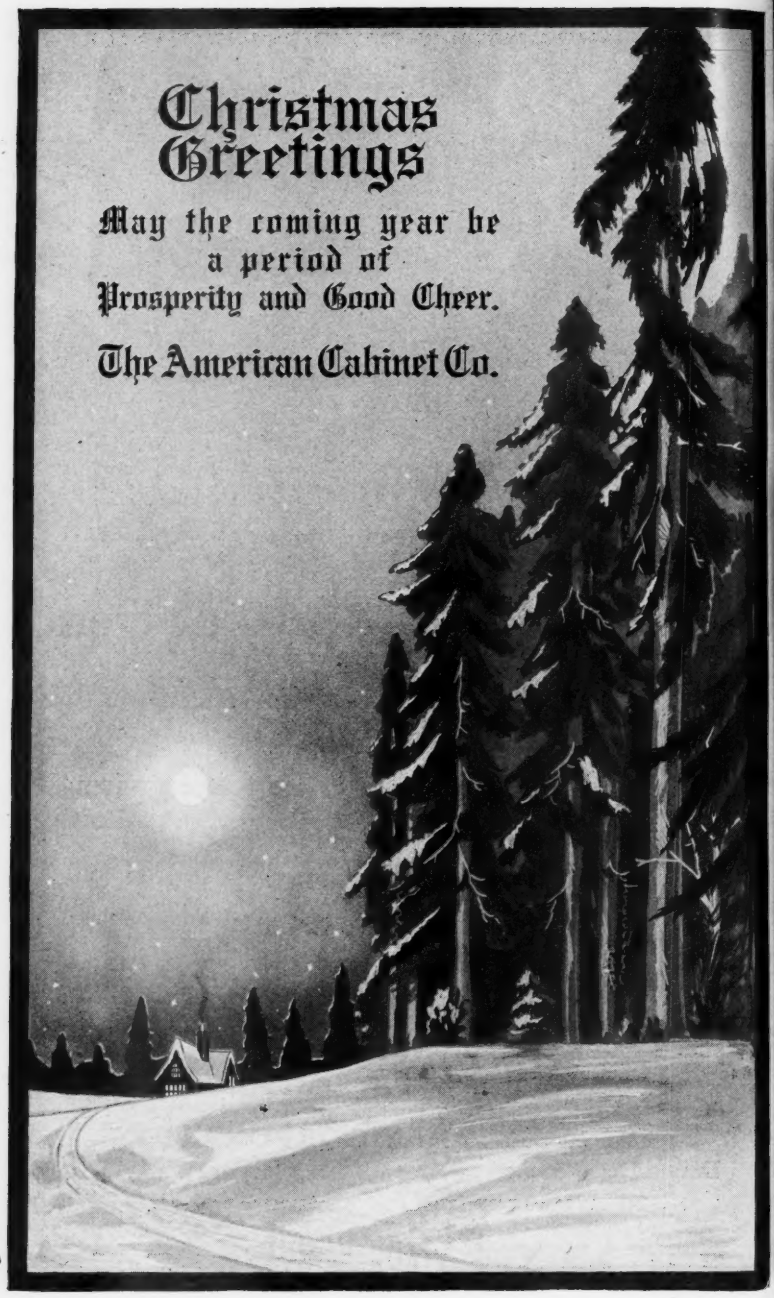
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Greetings
May the coming year be
a period of
Prosperity and Good Cheer.
The American Cabinet Co.

The Wiechert Pressed Gold Plate

A SUPERIOR PRODUCT of the Wiechert Laboratory which fills your need for a plate of highest quality at a medium price.

To give ample strength and to avoid all possibility of breaking away from the rubber the 18 Kt. Gold palate is extended **over the ridge.** The periphery is completed in rubber. This denture offers all the superior qualities of a full gold plate.

The same construction is used on the lower.

Specifications: Trubyte Teeth; any rubber desired; muscle trimmed margins; lingual carving.

PRICE for average mouth, complete, Upper or Lower $25.00

GEORGE A. WIECHERT & CO. INC

247 W 42 St., NEW YORK, N.Y.

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Upward Trend of Prosthodontia

The trend of prosthodontia is upward and onward as evinced at the recent meeting of the American Dental Association and other meetings throughout the dental world.

Never before has greater effort been employed by the profession to produce restorations that not only restore masticatory efficiency but esthetic harmony as well.

Earnest and intelligent effort is being put forth to provide suffering humanity with real substitutes for lost dental organs.

Co-operative effort has been extended by the manufacturer to provide suitable materials and appliances, thereby enabling the dentist to carry on this advanced movement.

S. S. White "Natural" Teeth are an example of this co-operation. They provide for masticatory efficiency as well as esthetic harmony. Carved by the aid of the Wadsworth Articulator they are anatomically correct. They produce, with very little milling, more than balanced occlusion for they afford balanced masticatory stress. The teeth just mesh together like the cogs of two gears.

From an esthetic viewpoint S. S. White Natural Teeth offer the nearest approach to the natural organs; viz, a translucent porcelain that looks like human tooth tissue, vital color effects that have never before been realized in dental ceramics, typal forms in a variety of sizes that harmonize with the physical requirements of the patient.

S S. White "Natural" Teeth Assure Superior Dentures

For Sale by Dealers and our Houses

Literature sent on request

THE S. S. WHITE DENTAL MFG. CO.

"Since 1844 the Standard"

PHILADELPHIA

Merry Christmas *and* Healthy New Year

DO more than merely *wish* your friends a healthy, happy New Year. *Make* it a healthy New Year. Remember that the germs of tuberculosis are everywhere. You, your family, friends and strangers alike, are constantly threatened by this dread disease. There is only one sure escape. That is to stamp out tuberculosis entirely.

It can be stamped out. The organized warfare carried on by the tuberculosis crusade has cut the tuberculosis death rate in half. Only one dies now where two died before. Christmas Seals helped to save the other life, for the sale of Christmas Seals finances the tuberculosis associations.

Buy Christmas Seals. Buy as many as you can. They are the sturdy little guardians of your Merry Christmas and Healthy New Year.

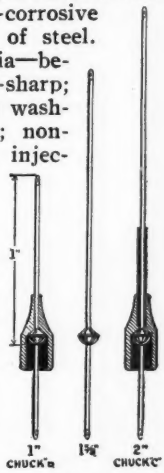
Stamp Out Tuberculosis with this Christmas Seal

THE NATIONAL, STATE, AND LOCAL TUBERCULOSIS ASSOCIATIONS OF THE UNITED STATES

OSTROV
HYPODERMIC NEEDLES

The result of an urgent demand for a needle of the Schimmel type, pointed at both ends, for use on both standard and cartridge syringes. Ostrov Needles are non-corrosive, pliable, strong and cost no more than steel.

Practitioners who have both standard and cartridge syringes find that the R & R Ostrov Needle has solved an economic as well as an hypodermic problem. Economic — because they serve a double purpose; are not soldered to the chuck; a non-corrosive needle for the price of steel. Practical in anesthesia—because they are razor-sharp; leak-proof; require no washers; easy to sterilize; non-corrosive; give clean injections; pliable yet strong.



Not soldered!

Ostrov Needles embody the Schimmel principle with patented seal which eliminates washers. The soft metal ball seats itself against end of syringe as chuck is fastened down, and forms leak-proof contact. In ordering Ostrov Needles, note that length is not judged from end of chuck. Packed in vials of 12, one gauge and length, 23 and 25 gauge.

Have your dealer show you how Schimmel and Ostrov Needles simplify local anesthesia.

The Ransom & Randolph *Company*
TOLEDO-OHIO

Dioxogen

If a brother dentist advised you to use DIOXOGEN in your pyorrhea and pus cases you would probably do so—you would not care just how this advice was worded nor just what he said, but just because it was a brother dentist you would probably follow his advice.

Brother dentists are constantly writing us words of praise about DIOXOGEN—they do not give any reasons why DIOXOGEN is better than anything else they have ever used, but they just say it does such good work.

As manufacturers of DIOXOGEN we know why it is so good and will gladly tell you, but what would be more convincing, would be for you to try it for yourself. It's what DIOXOGEN does that interests the dentist and a sample speaks louder than words.

We would send it if we knew your name and address. Write while it is fresh in your memory.

The Oakland Chemical Co.

59 FOURTH AVENUE NEW YORK, N. Y.

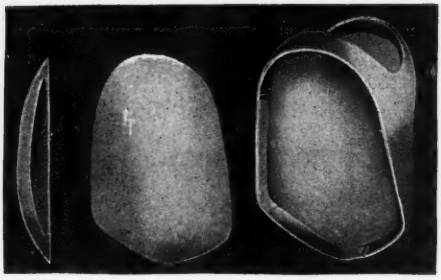
"A Good Restoration Made Better"

OUR PATENTED

PORCELAIN VENEER

GOLD CROWNS

An Esthetic Restoration for Individual Teeth
A Perfect Bridge Abutment



In response to an appeal from clients in distant points, who find it more convenient to complete their own Porcelain Veneer Bridges, we have made slight modifications in our abutment crowns which will make soldering easy and INSURE POSITIVE COLOR CONTROL.

In ordering Porcelain Veneer Gold Crowns, mention whether they are to be used for individual teeth, or for bridge abutments.

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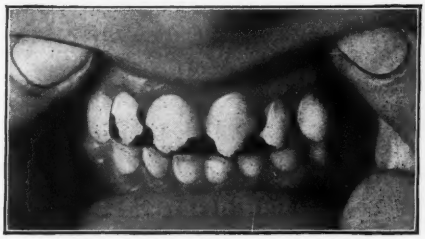
OUR "TRUBYTE MOULD"

PORCELAIN JACKET CROWN

A MARVELOUS RESTORATION

Our "TRUBYTE MOULD" Porcelain Jacket Crowns are constructed with the highest fusing Porcelain, insuring maximum strength and beauty. They are free from brittleness and will stand the test of hard usage. They cost no more than the ordinary kind. We cannot conceive how the old style porcelain jacket crown can survive such competition.



Old inlays removed and teeth ready to be prepared for Trubyte Mould Porcelain Jacket Crowns.

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DEVITALIZED TEETH

Will Long Be A Topic of Dispute

Whether you agree with the extremists or hold more moderate views, all must concede that restorations employing, *Stulz* Interchangeable Facings and Posteriors can be constructed in harmony with the most advanced thought, or the simplest form of application;

whether it be fixed, removeable, porcelain root cones, or whatever you desire, *Stulz* Interchangeable Facings and Posteriors are adaptable for the case.

Their interchangeable features, precisely maintained, make them superior for all bridgework.

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The Columbus Dental Mfg. Company

COLUMBUS, OHIO, U.S.A.

Revolutionary!

Better Dentures
with "Adaptable Articulation" at the price of Simplex.

THROUGH the medium of the "Plastic" Technic we can now reproduce the individual movements of the jaw by your giving us three simple registrations in addition to the ordinary preparatory work for plane line articulation.

To be able to do this is a big step forward, but to be able and willing to give this heretofore exclusive service of few specialists at the cost of simplex articulation is revolutionary.

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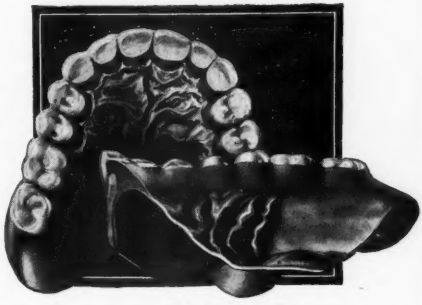
Adaptable Articulation is the one means of assuring stable, comfortable dentures. You can now obtain Anatomical Articulation on our Elite Plates at no increase in price.

Supplee Attachments have also revolutionized ideas on bridge and partial denture retention. Ask your laboratory or write for literature.



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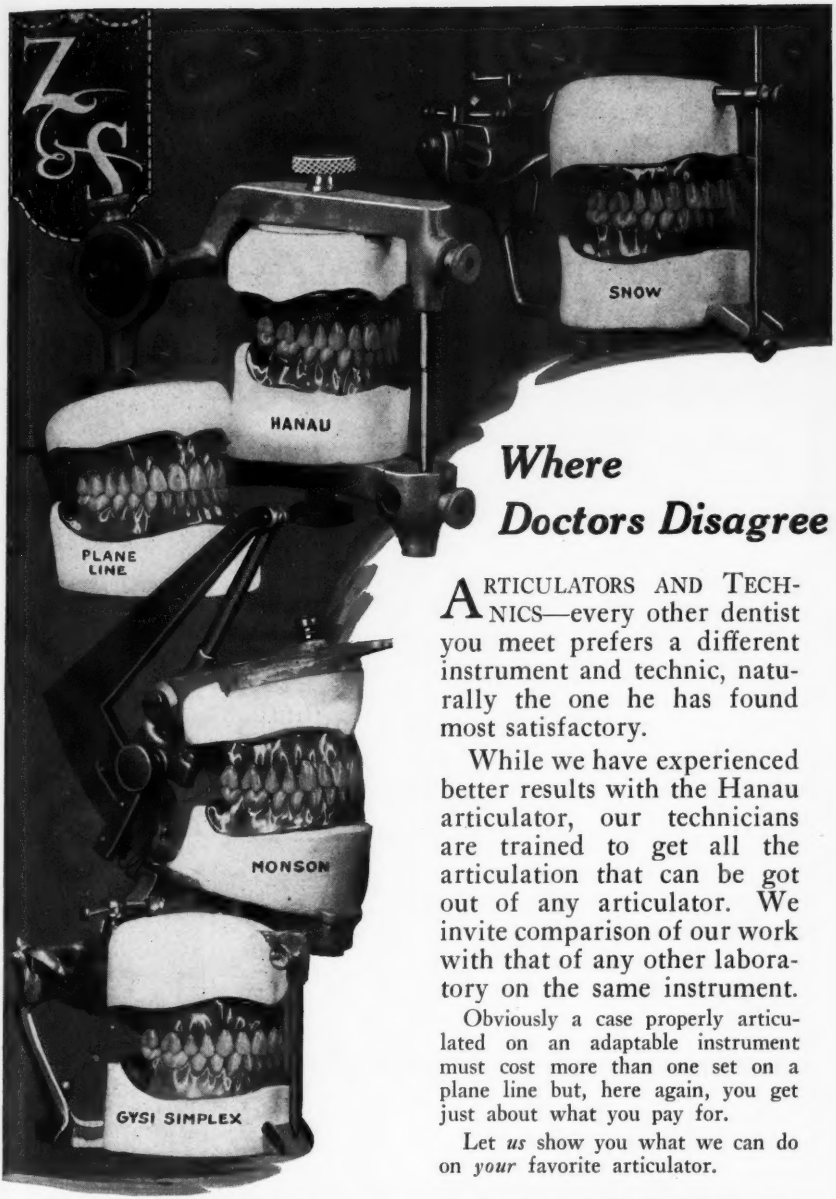
AN IVORY BILLIARD BALL is not more smooth than Caulk Cement. Take particular notice of the surplus that sets on the slab. When it hardens, the texture becomes smooth, hard, and glossy like fine ivory. Such fine texture is one of the signs of strong and reliable cementation for any piece of work. On your next order remember to *specify*

CAULK CEMENT

6 Powders — 4 Liquids — $8.00

Two Economical Packages — $15.00



Where Doctors Disagree

ARTICULATORS AND TECHNICS—every other dentist you meet prefers a different instrument and technic, naturally the one he has found most satisfactory.

While we have experienced better results with the Hanau articulator, our technicians are trained to get all the articulation that can be got out of any articulator. We invite comparison of our work with that of any other laboratory on the same instrument.

Obviously a case properly articulated on an adaptable instrument must cost more than one set on a plane line but, here again, you get just about what you pay for.

Let *us* show you what we can do on *your* favorite articulator.

ZILINSKI & STERNBERG

Members Associated Dental Laboratories, Inc.

"Technicians to discriminating dentists—"

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PHONES, BRYANT 2345-9283.

This is all we ask---

Of the many good things that may be said of Forhan's For the Gums, we ask you to remember only four:

1. Forhan's For the Gums is the formula of R. J. Forhan, D.D.S., who devoted his practice to Pyorrhea many years.
2. It is compounded from the purest ingredients under Dr. Forhan's personal supervision.
3. It contains a small percentage of astringent, which the leading Dentists use in the treatment of Pyorrhea.
4. It has proved beneficial to millions.

FORHAN COMPANY, NEW YORK
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Forhan's
FOR THE GUMS

Forhan's Pyorrhea Astringent is a recognized healing adjunct in the treatment of Pyorrhetic conditions. Its use is restricted solely to dentists. Order through your dental supply house.

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Xmas Money for Your Scrap

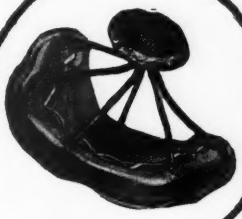
If that Xmas Fund of yours needs a little assistance, why not gather up those old gold crowns, bridges, filings and other bits of precious metal and send them to us?

You will receive an accurate assay and a prompt report. Your gold will be held intact pending your acceptance.

Payment in Jelenko Golds or Cash. Tell us which you prefer.

Make this New Year's Resolution—Send your scrap gold to Jelenko once a month. It will pay you.

MFRS OF DENTAL J. F. JELENKO & CO. GOLD & SOLDER REG. U.S. PAT. OFF.



Skel-Cast

There's really only one casting gold which combines the unusual strength, lightness and fine casting qualities of Skel-Cast—and that gold is SKEL-CAST.

For dentures, saddles and bars

Fusing Point 1700°F.
Gold Color—per dwt., $1.35

Send for Brochure describing our complete line

Jelenko Products are sold by better dealers everywhere.

J. F. JELENKO Co.
136 West 52nd. St. New York, U.S.A.

Results That Count

When you place an Inlay or Porcelain Jacket Crown in the mouth you are assured of these results:

The satisfaction of knowing your patient has the best possible restoration.

The patient will be pleased.

Your practice will increase.

You can rely on your finished work from these Laboratories being as good as your impressions. Our years of experience in this one line guarantees the Dental Profession positive results.

You will receive courteous treatment and prompt service from our Ceramists of proven ability.

Literature Free

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Anestubes for breech-loading syringes

SAFETY is the prime requisite in local anesthetics and it is safety *plus* effectiveness that you get in Novol Local Anesthetics.

The form in which you use Novol is a matter of individual choice. Whatever the form you can depend on the absolute purity, uniformity and sterility of Novol, the Local Anesthetic that has eliminated the fear of postoperative complications.

A sample packet of Novol in the form you prefer, free on request.

Sold by all dealers.

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Novol for Anesthesia

SUCCESS
IN DENTISTRY

depends upon

PROFESSIONAL ABILITY

CORRECT BUSINESS METHODS

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If it's Ritter — it's Right

Ritter Equipment is Modern Years after the Purchase Price Has Been Forgotten

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PECK'S
"One-Man-Made"
Dentures

A full compensating lingual bar denture with cast saddles, round wire clasps and wrought wire compensating bar. English Tube Teeth.

A Chayes Removable Bridge Case designed and constructed by Peck.

FROM THE SIMPLEST little Nesbit to the most intricate removable bridge, each case entering this laboratory is finished by the man who starts it. This may not be efficient factory management. But we never claimed to be a factory. Quite the opposite.

Peck's offers its patrons individual laboratory service. The kind you would expect if you had your own laboratory adjoining your office.

Peck's "One-Man-Made" Dentures are naturally better than assembled dentures, the product of several hands. Our mechanics do not work under pressure. One case at a time, into which he can put every bit of skill he possesses. And all our mechanics are the best the laboratory world offers.

Knowledge that a denture is *his* work inevitably inspires a man to a supreme effort to excel. And you benefit by getting cases that fit, that you are proud to put into your patient's mouth.

If Peck accepts the impression the case is guaranteed.

Why not send that next case to us?

Out-of-town work solicited. Prompt attention assured.

CHARLES K. PECK
Dental Laboratory

233-239 WEST 42nd STREET
NEW YORK, N.Y.

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WISconsin 2892-3

The Prophylaxis of Dental Caries

The Cause of Dental Decay: The presence in the mouth of lactic and butyric acids formed by bacterial action on food particles.

The Results of Dental Decay: Roughening, softening and penetration of the enamel; damage to the dentine; the formation of cavities affording lodgment for pathogenic organisms, with subsequent development of root abscesses, gingivitis, pyorrhea, etc.

How to Prevent Dental Decay: The daily, systematic application of a suitable, non-irritating, non-abrasive alkaline fluid is the best and most practical method of controlling or preventing dental decay. This is not an empty assertion, but it has the support of authority.

Note. Thousands of your fellow-practitioners have made the discovery that "Phillips' Milk of Magnesia" is just such a fluid. It completely fills the bill. It is the ideal alkalinizer for use in the human mouth.

WHY YOU SHOULD SPECIFY "PHILLIPS' MILK OF MAGNESIA"

a. It is pure, i. e., free from every trace of deleterious substances.

b. It is a hydrate and, therefore, has a special affinity for acids.

c. It acts immediately and efficiently, and has no disagreeable effects.

d. It is three times as efficient as bicarbonate of sodium and *fifty times* as powerful as lime water in neutralizing acids.

HOW TO USE "PHILLIPS' MILK OF MAGNESIA"

Kindly instruct your patients to rinse the mouth with a tablespoonful of "Phillips' Milk of Magnesia," at least twice a day and invariably at bed-time, as acidity is most likely to develop during sleep.

The nightly application should be made in the following way: Cleanse the teeth well with a toothbrush and warm water. Rinse the mouth thoroughly, then take a tablespoonful of "Phillips' Milk of Magnesia" and work it back and forth through the spaces between the teeth for a few moments —the object being to reach every surface of all the teeth. After rejecting the superfluous portion *do not rinse the mouth again, but allow the alkaline film of Magnesia to remain on the dental surfaces.*

An excellent plan is to use "Phillips' Milk of Magnesia" as a dentifrice, on the tooth-brush, instead of preparations containing precipitated chalk.

PHILLIPS' Milk of Magnesia

CAUTION. The dentist is advised to beware of imitations of "Phillips' Milk of Magnesia." The genuine product bears our registered trade-mark. Kindly prescribe in original 4-ounce and 12-ounce bottles obtainable from druggists everywhere.

Prepared only by **The Charles H. Phillips Chemical Co., New York and London**

Safeguarding the Mouth Against Infection

s an established principle in modern dental practice. The importance of sing only surgically clean materials within the mouth is universally ecognized.

Dental Floss Silk is one of the accessories used by the dentist for the ntegrity of which he is largely dependent upon the manufacturer.

Used either as ligatures or for prophylaxis dental floss is often drawn eyond the free border of the gums and unless the dentist knows that the loss he is using is surgically clean he realizes that possible infection of the elicate gingival tissues is openly invited.

New Era Dental Floss is Surgically Clean.

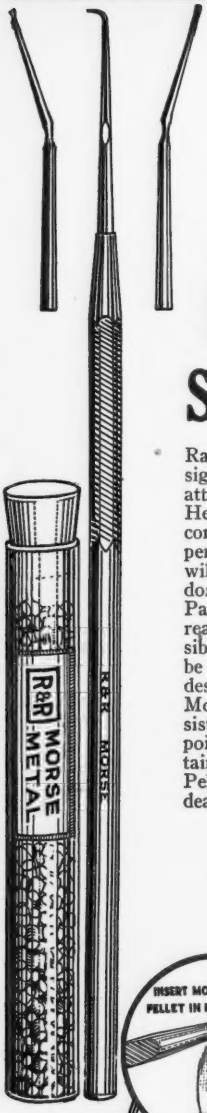
t is prepared from the best materials under strict surgical methods and s maintained in a condition of surgical cleanliness in glass bottles under ubber washer and metal top with cut-off. *New Era is the only floss put up in this way.*

The cost, however, is no greater than for ordinary kinds.

Order through your dealer. Specify New Era and you will get it.

JOHNSON & JOHNSON
New Brunswick, N. J., U.S.A.

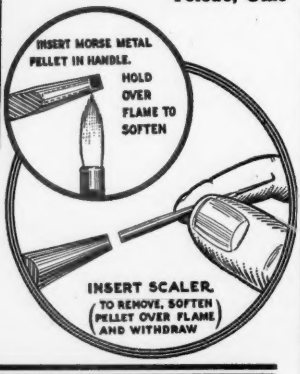
ohnson & Johnson Dental goods are sold y leading dealers in every country in the orld.



The new R & R MORSE SCALER

Radically different in design and method of attaching to handles. Here the dentist has a compact, simple, inexpensive scaling outfit that will do the work of dozens of instruments. Particularly designed to reach the most inaccessible places. Points may be bent to any angle desired. The R & R Morse Scaler Outfit consists of 6 handles, 12 points and a bottle containing about 200 Morse Pellets. $5.00 — at your dealer's.

The
RANSOM & RANDOLPH
Company
Toledo, Ohio



PROPHYLLIQUE

PROPHYLLIQUE

REG. U.S. PAT. OFFICE

AN unusually efficient Mouth Wash and Gargle for the health of the mouth and throat in general. Particularly indicated in the prevention and treatment of

PYORRHEA ALVEOLARIS

PROPHYLLIQUE is a solution of alkaline Fluorides in combination with other antiseptics. It has an agreeable taste, a refreshing effect on the mouth and is highly antiseptic without being irritating.

Try it on a case of fetid breath
Sample on request

One size, 16 oz. **Retail $1.00**
Direct or through your druggist

The Sanitube Company

NEWPORT, R. I.

Manufacturers of Prophylactic Products

THE SANITUBE CO.,
NEWPORT, R. I.
Gentlemen:
Please send me free of charge a sample of Prophyllique for clinical trial.

Dr. _____

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To the Dental Profession....

Your Copy of the

"NEW BORINE APPOINTMENT BOOK"

for 1926 is Ready for You

This new book will be even more convenient to use than in past years. The size has been increased from 4 x 6½ to 5 x 8, which allows greater space between the lines under the headings, "NAME" and "SERVICE RENDERED."

IT IS HANDSOMELY BOUND WITH A FINE GRADE FULL CLOTH COVER.

This book regularly sells for $1.00, but is offered to you without cost. Just fill in the enclosed order card for one gallon of BORINE.

EVERY DENTIST SHOULD USE THIS APPOINTMENT BOOK, and you can secure it without cost. Fill the enclosed Order Card for one gallon of BORINE, (Antiseptic Mouth Wash) enclosing $3.50, and this handsome Appointment Book will be mailed to you WITHOUT COST, with other items as follows:

1.	One Gallon BORINE—regular price.....	$3.00
2.	One BORINE APPOINTMENT BOOK (1926).....	1.00
3.	500 Extraction Envelopes—(your name and address)	1.00
4.	One BORINE Tooth Brush—(with name on).....	.50
5.	One Cabinet Bottle.....	.50
	Total Cost	$6.00

WITH THIS SPECIAL OFFER ONLY $3.50

Enclose your personal card.

Price of Book without above $1.00.

Samples and prescription pad sent with the above items.

Thousands of dentists throughout the country have used the Borine Appointment Book year after year. Send for your copy at once. The edition is limited. Shipments are made in the order requests are received.

Very truly yours,

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JUST PIN YOUR CHECK TO THIS AND MAIL IT

BORINE MANUFACTURING COMPANY,
551 WEST 42ND STREET,
NEW YORK CITY.

Date.....

Please enter my order for Borine Outfit, including 1926 Diary.
I enclose check ; money order .

Name .....
Please print name in ink

Street .....

City ..... State.....

The Doctor's Own Christmas.

'TWAS the night before Christmas,
And all through the house
Not a creature was stirring—
Not even a mouse.

When down through the chimney,
Face covered with black,
Came a Kewpie-like chap with
A pack on his back.

A broad smile lit his face as
He found hanging there
A long line-up of hosiery
All empty and bare.

Nannette's dainty silks hung
Near Ma's spacious hose,
And by Willie's there dangled
Socks darned at the toes.

"They're surely the Doctor's,"
He said with a grin,
As he stuffed full each sock with
All he could get in.

At Doctor's he paused for
A moment or two—
And he seemed to be wondering
Just what he should do.

He thought how the Doc in
A corner would sit
Grinding Crowns in a hope that
The "durn" things would fit.

And he thought how Doc struggled
Fine dentures to make,
Yet he'd use teeth that branded
Each denture a fake.

And on bridgework he also
Spent hours of his time
Putting "art" in some facing
He'd bought for a dime.

Old Santa his whiskers
Caressingly stroked,
Then his hand in his sack he
Decisively poked.

"See here," mused old Santa,
"This chap is all right,
His intentions are good *but*
He *must* use *Trubyte*.

"For with Trubyte Teeth, Facings
And Crowns, Heaven knows,
He would not have to wear his
Socks darned at the toes.

"Their natural beauty,
'Tis easy to see,
With his workmanship surely
Will bring a good fee."

Then Santa pulled out of
His bag a big box—
'Twas a Trubyte Assortment
He put under Doc's socks!

Now if you don't find near
Your fireplace shelf
A Trubyte Assortment
Just get one yourself.

For Santa's a busy
Old bird, without doubt,
But your dealer will sure help
The old fellow out.

THE DENTISTS' SUPPLY COMPANY
220 WEST 42ND STREET. NEW YORK.

For all

INFECTED WOUNDS

in the

MOUTH

Pyorrhea, Trench Mouth, Ulcers, Abscesses, Pus Pockets, etc.

MAC'S BLACK LOTION

is the ideal antiseptic, non-irritating, healing dressing and bacterial germicide.

Mac Chemical Corp.

135 Broadway
N. Y. C.

6 oz.—$1.00
Samples on request

Follow the arrow—
it points to the patented platinum alloy movable guard that makes APW Needles even more safe to use.

The guard is a convenience, too, it regulates the depth of injection.

Sold with AW 30% Iridium Platinum Needles for a trifle extra.

Ask your dealer—or write for folder.

AMERICAN PLATINUM WORKS
N. J. R. R. AVE. AT OLIVER ST.,
NEWARK, N. J.

"METZ MADE MEDICINALS"

NOVOCAIN

NOVOCAIN-SUPRARENIN (N.S.) TABLETS "E" and "T" for preparing one's own solutions.

NOVOCAIN-SUPRARENIN (N.S.) SOLUTIONS "E" and "T" in the AMPULE for the ready-to-inject, bear the stamp of approval, scientifically and practically.

These convenient-to-use forms of NOVOCAIN—The Dependable Original—constitute the strongest factors in the continuity of surgical cleanliness.

PYRAMIDON

Internally, for the relief of pain associated with pre- and post-operative conditions.

The adult dose of PYRAMIDON is the five grain tablet.

H·A·METZ LABORATORIES, INC.
122 HUDSON ST. NEW YORK

SAL HEPATICA

As a general laxative and eliminant, Sal Hepatica materially aids local treatment in pyorrhea, spongy gums and many other pathologic oral diseases.

Samples supplied for clinical purposes

BRISTOL-MYERS COMPANY
40 RECTOR STREET, NEW YORK

All Sizes
1905-1925

FEW REASONS

Why the "EUREKA" has won the confidence of the profession during the past twenty years. By allowing your patients to renew their own cups.

Note construction of our patented attachment, which is lower than the surrounding surface—nothing to irritate the tissue.

Also note thinness of plate, accomplished only by using the "EUREKA."

ORIGINATORS OF THE HEART SHAPE CUP

Upper or Lower $2.00 per box—half dozen.

WHY PAY MORE?

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Taught thoroughly and rapidly Under the direction of Professor George A. Bodee

Practical instruction — day or evening. Three to nine months' course. Easy payments, if desired. Unequaled Curriculum. Also Post-graduate course for Dentists and Practicing Dental Mechanics. Established over 30 years.

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